DOCUMENT RESUME

ED 085 396 SP 007 596

TITLE	Current Literature on Venereal Disease, 1973. Number One. Abstracts and Bibliography.
INSTITUTION	Center for Disease Control (DHEW/PHS), Atlanta, Ga.
REPORT NO	DHEW-HSM-73-8233
PUB DATE	73
NOTE	49p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Annotated Bibliographies; *Communicable Diseases; *Disease Control; Disease Rate; *Diseases; Health Education; *Physical Health; *Venereal Diseases

ABSTRACT

This report presents a survey of recently published literature in the field of venereal disease. The five main topics covered are a) diagnosis and management of syphilis and other treponematoses, b) gonorrhea, c) minor venereal and related diseases, d) public health methods, and e) behavioral studies. The material in each of these sections contains the title of the article, the name and address of the author when available, publication information, and an article summary. Each of these sections also presents a selected bibliography of periodic literature in the field. The last section of the report includes a list of current books on venereal disease. (BRB)

FILMED FROM BEST AVAILABLE COPY

ED 085396

CLVD

CURRENT LITERATURE ON VENEREAL DISEASE

Abstracts and Bibliography

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

1973

NUMBER ONE

SP 007 596

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

FOREWORD

Current Literature on Venereal Disease presents a survey of recently published literature in the field. Effort is made to keep the abstracts as current as possible and sufficiently informative to enable the reader to decide whether the original article would be of interest to him. For the benefit of the reader, where possible the address of the first author is included with each abstract. Publication of the abstract does not necessarily imply endorsement by the Health Services and Mental Health Administration of the original article or of commercial products or other drugs or methods of therapy mentioned therein.

In compiling these abstracts we utilize MEDLINE, the National Library of Medicine's remote-access retrieval service. Under this system, 2,300 foreign and domestic biomedical periodicals are searched for material dealing with or related to venereal disease. We also utilize the libraries of Emory University, the Center for Disease Control and other federal agencies.

From time to time, as new books appear which deal with the venereal diseases, a list will be appended. Again, publication of such a list does not imply endorsement by the Health Services and Mental Health Administration.

Current Literature on Venereal Disease is published three times each year and is indexed annually. Distribution is made to medical and other interested personnel and institutions throughout the United States and in 70 additional countries. Individuals desiring to be placed on the mailing key to receive Current Literature on Venereal Disease on a regular basis should write to the Center for Disease Control, Attention: Technical Information Services, State and Community Services Division, Atlanta, Georgia 30333.

Ralph H. Henderson, M.D.
Chief, Venereal Disease Branch
State and Community Services Division
Center for Disease Control
Atlanta, Georgia 30333

Trade names are used for identification only and do not represent an endorsement by the Health Services and Mental Health Administration.

CONTENTS

FOREWORD iii

DIAGNOSIS AND MANAGEMENT
SYPHILIS AND OTHER TREPONEMATOSES 1
Clinical 1
Laboratory Diagnosis 5
Therapy 7
Selected Bibliography 9

GONORRHEA 13
Clinical 13
Laboratory Diagnosis 14
Therapy 16
Selected Bibliography 21

MINOR VENEREAL AND RELATED DISEASES 25
Selected Bibliography 29

RESEARCH AND EVALUATION 31
Selected Bibliography 37

PUBLIC HEALTH METHODS 40
Selected Bibliography 44

BEHAVIORAL STUDIES 42
Selected Bibliography 46

BOOKS 47

DIAGNOSIS AND MANAGEMENT

SYPHILIS AND OTHER TREPONEMATOSES

Clinical

NERVE DEAFNESS IN EARLY SYPHILIS. R. R. Willcox and P. G. Goodwin – St. Mary's Hospital, London, W.2, England. BR J VENER DIS (London) 47:401-406, December 1971.

Authors' summary and conclusions: (1) Syphilitic nerve deafness is commonly considered to be associated with congenital syphilis. Three cases are described in homosexual men who were all concerned with music, and in whom perceptive deafness was considered to have occurred in the early acquired infection. In all three cases the cerebrospinal fluid was abnormal. (2) All three patients were treated with antibiotics under corticosteroid cover, but in two cases the hearing worsened during the first few days of therapy, in one markedly so, as a probable Herxheimer effect. (3) After treatment sero-reversal occurred as would be expected in an early infection, and changes towards normality were also observed in the cerebrospinal fluid. (4) On subjective evidence, recovery of discrimination occurred in all cases and musical appreciation was once more unimpaired. Objective pure tone audiographic measurement showed gradual improvement in one case, almost complete improvement in the second, and a complete return to normality in the third. (5) As it was the interest of these patients in music which brought their cases to light, an audiographic study of non-musical secondary syphilitics would be of interest.

* * *

UNCOMMON COMPLICATIONS OF EARLY SYPHILIS: HEPATITIS, PERIOSTITIS, IRITIS WITH PAPILLITIS, AND MENINGITIS. J. D. J. Parker–Consultant Venereologist, Tottenham Group of Hospitals, St. Bartholomew's Hospital, London, England. BR J VENER DIS (London) 48:32-36, February 1972.

"For over 20 years Great Britain has experienced an incidence of syphilis which is remarkably low compared with that in many countries of comparable living standards, and the less frequent complications of secondary syphilis of the pre-war era have become uncommon to the point of rarity." Four cases of early syphilis, recently seen at St. Bartholomew's Hospital, London, were associated respectively with hepatitis, periostitis, iritis, and meningitis. The relevant literature is briefly discussed.

* * *

SYPHILITIC PARONYCHIA: AN UNUSUAL COMPLAINT (Letter to Editor). David H. Kingsbury, Earl C. Chester, Jr., and G. Thomas Jansen–University of Arkansas School of Medicine, Dermatology Clinic, 4301 W. Markham, Little Rock, Arkansas 72201. ARCH DERMATOL (Chicago) 105:458, March 1972.

Case reports of syphilitic paronychia have not appeared in the more recent literature. Authors recently saw a young woman whose presenting complaint was marked pain and tenderness of her fingertips of 8 weeks' duration. Initial darkening of the skin around her fingernails was followed by swelling, tenderness, and a serous discharge. This condition progressed in a week to involve all but two fingers. Although patient denied any past or present genital lesions, pelvic examination revealed several darkfield positive condylomata lata on the vulva. The VDRL test was positive. Scrapings and a culture from the nail plate and bed failed to isolate fungi or yeast. The final diagnosis was syphilitic paronychia ulcerosa. Treatment with 2.4 million units penicillin G benzathine produced a Jarisch-Herxheimer reaction within eight hours. After

24 hours there was some relief from finger pain, and the patient was totally asymptomatic within 4 days.

* * *

HYDROPS FETALIS AND CONGENITAL SYPHILIS (Letter to Editor). Stephen I. Bulova, Elias Schwartz, William V. Harrer—(Dr. Schwartz) Department of Pediatrics, Jefferson Medical College, 1015 Sansom Street, Philadelphia, Pennsylvania 19107. PEDIATRICS (Springfield) 49:285-287, February 1972.

"Hydrops fetalis is associated most commonly with erythroblastosis fetalis due to fetal-maternal incompatibility of the red cell RH antigens. Many nonimmunologic disorders, including infections, homozygous alpha thalassemia, maternal diabetes mellitus, fetal malformations, the twin transfusion syndrome, and congenital nephrosis, may cause a similar syndrome. Although congenital syphilis has been mentioned as a cause of hydrops fetalis, reports of the association antedate the use of immunologic methods capable of detecting isoimmunization." Report is made on an hydropic infant with syphilis in whom there was no evidence of Coombs-positive hemolytic anemia, alpha thalassemia, or severe congenital malformations. Authors note that further studies are needed to determine whether the pathologic differences from infants with erythroblastosis noted in this case are characteristic of those found in association with hydrops fetalis due to congenital syphilis. Authors conclude that seriological testing for syphilis is indicated in any infant with hemolytic anemia and hydrops fetalis in whom the Coombs test is negative.

* * *

THE NEPHROTIC SYNDROME IN CONGENITAL SYPHILIS: AN IMMUNOPATHY. L. Leighton Hill, Don B. Singer, John Falletta, Richard Stasney—Department of Pediatrics, Baylor College of Medicine, Houston, Texas 77025. PEDIATRICS (Springfield). 49:260-266, February 1972.

Authors' abstract: This report describes the renal morphology in an infant, 2½ months of age, who had the nephrotic syndrome secondary to congenital syphilis. A specimen of the kidney obtained by needle biopsy was studied by light, electron, and fluorescent microscopy. Periarterial cellular infiltrates composed of lymphocytes and plasma cells were prominent in the interstitial tissues. Glomerular visceral and parietal epithelial cells were swollen and increased in number. The axial matrix in many glomeruli was expanded by partially collagenized axial matrix material. Nodular electron dense deposits were numerous in the epithelial aspect of the glomerular basement membrane. The areas corresponding to the electron dense deposits were strongly stained with fluorescein tagged antisera to IgG, IgM, and fibrinogen. Less intense but still positive staining was obtained with antisera to IgA and β_1c globulin.

The nephropathy in congenital syphilis appears to have its basis in the deposition of immune complexes within the glomerular basement membrane. The very young infant, therefore, appears capable of manifesting with an immune deposit disease. The presence of all classes of immunoglobulins in the membranous deposits suggests that the infant has precocious capabilities for producing each of these immunoglobulins.

* * *

DESTRUCTIVE BONE PROCESSES IN EARLY INFANCY (GERMAN). E. Drescher—Stadt. Krankenhaus, 722 Schwenningen/N., West Germany. FORTSCHR GEB ROETGENSTR NUKLEARMED (Stuttgart) 116:569-571, April 1972.

This article describes the case of a 10-month-old child from Bosnia with osteomyelitis of the radius of the right arm and an almost septic condition, requiring hospitalization. There was also a fracture of the distal metaphysis of the same radius. The progress of the lesions over a period of seven months of treatment is shown by three x-rays. Differential diagnosis included the possibility of syphilis. The Wassermann reaction was positive; subsequently, the FTA-ABS test was positive on three occasions. Following intensive antibiotic therapy the TPI test was negative. Syphilis was considered to be the cause of the lesions, confirmed by detailed x-ray findings.

* * *

SYSTEMIC DISEASE AND THE BIOLOGICAL FALSE POSITIVE REACTION. R. D. Catterall—James Pringle House, The Middlesex Hospital, London, England. BR J VENER DIS (London) 48:1-12, February 1972.

Author's summary: The principles and development of the nonspecific and specific serum tests for treponemal disease are reviewed in relation to the recognition of the biological false positive (BFP) phenomenon. 74 cases of the acute BFP are analyzed. 130 cases of the chronic BFP are presented to show the high incidence of auto-immune disease and the incidence and variety of autoantibodies. A group of six patients has been identified, all presenting an illness combining features of multiple sclerosis with those of systemic lupus erythematosus, a syndrome not previously described, and termed "lupoid neuropathy."

* * *

FUNCTION OF THE SUBCUTANEOUS LYMPH NODES IN SYPHILIS (RUSSIAN). Iu. A. Rodin, V. N. Komorovskaia. VESTN DERMATOL VENEROL (Moskva) 46:61-65, May 1972.

English summary: "The authors carried out histological, histochemical and immunomorphological studies of histological sections, smears, and punctates of lymph nodes in 15 patients with different stages of syphilis. Morphological changes in lymph nodes were correlated with the results of the Wassermann Test. The authors concluded that enlargement of subcutaneous lymph nodes was associated not as much with their barrier-filter function as with intensive synthesis of humoral antibody which was indicated by the entire complex of hyperplastic processes (macrophage reaction, reticular hyperplasia, formation of pyroninophilic fluorescent blasts, high content – up to 85% – of gamma globulin in extracts of lymph nodes). At the same time, synthesis of humoral antibody in them occurred unevenly. Antibody production reached highest levels in lymph nodes in secondary fresh syphilis, and in later stages the immunological function of lymph nodes decreased and foci of actively functioning antibody-producing cells were substituted by connective tissue and underwent sclerosing. It may be assumed that in the tertiary period, under the effect of immunity, the spirochaetae persisting in the tissues lose much of their virulence and antigenic properties and cease stimulating active functioning of subcutaneous lymph nodes."

* * *

UNUSUAL MANIFESTATIONS OF SYPHILIS OF LONG DURATION. Alex M. Raney—Chief Urologist, Veteran's Administration Hospital, Wilmington, Delaware. NY STATE J MED (New York) 72:1062-1064, May 1, 1972.

"In spite of an obvious current upsweep of venereal disease, it appears that the occurrence of syphilis is not generally anticipated and often not suspected. Therefore, many cases in the primary stage are mismanaged or misdiagnosed and may continue to remain infectious." Two case reports are presented. Case 1, a forty-three-year-old Negro male had an ulcerous lesion of the glans penis that had been present for about two years and was progressively increasing in size. It bled easily and was painless. The patient was seen by local physicians on two occasions and apparently was treated with an antibiotic, but no adequate record was available. A smear from the ulcerative lesion revealed *Treponema pallidum* on darkfield examination. Biopsy of the lesion revealed noninvasive epidermoid carcinoma associated with marked inflammatory reaction. Case 2, a twenty-four-year-old white male was transferred to the hospital with an ulcerating and granulating lesion involving the glans penis which had been present for eight months. A smear of the lesion was positive for *T. pallidum* on darkfield examination; the Frei test was negative. The patient was unaware of this syphilitic lesion.

* * *

NEUROSYPHILIS: A STUDY OF 241 PATIENTS. Hooshang Hooshmand, Mario R. Escobar, and Stephen W. Kopf—1200 E. Broad Street, Richmond, Virginia 23219. JAMA (Chicago) 219:726-729, February 1972.

From July 1965 to July 1970, neurosyphilis was diagnosed in 241 cases at the Medical College of Virginia Hospitals. "The outstanding feature of the symptoms in this study has been

the fact that the patients are not brought to the hospital with the classical picture of tabes dorsalis, GPI, or meningovascular syphilis. Neurosyphilis, at the present time, presents itself in a most atypical fashion. It is also discovered as an incidental finding on routine medical examination or among accident cases.

"The reversal of abnormal cell count in the CSF has been used as the main criterion for success or failure of treatment in neurosyphilis. However, in cases of tabes dorsalis or general paresis, a CSF with normal cell counts can become abnormal after penicillin therapy." In this series some patients were seen with active progression of disease but with no cells in the CSF before or after treatment. In other cases, the normal cell count in the CSF temporarily changed to an abnormal cell count in the range of 6 to 19 cells per cubic millimeter one to three weeks after the initiation of penicillin therapy. In other patients improvement was noted in clinical symptoms and signs after penicillin treatment despite initial normal cell count. From this survey it was concluded that non-treponemal serologic tests are not sensitive enough for diagnosis of neurosyphilis and that treatment with 20 megaunits of penicillin is the most effective procedure.

* * *

A STUDY OF AQUEOUS HUMOR FOR THE PRESENCE OF SPIROCHETES. Stephen J. Ryan, E. Ellen Nell, and Paul H. Hardy—Room 116, Wilmer Institute, Johns Hopkins Hospital, Baltimore, Maryland 21205. AM J OPHTHALMOL (Chicago) 73:250-257, February 1972.

Authors' summary: While attempting to determine the frequency of spirochetes in the aqueous humor of selected individuals, the specificity of the fluorscent stain employed in the identification of these microorganisms was investigated. Non-pathogenic spirochetes, including cultivable species as well as those from gingival scrapings, were found to take the stain as intensely as *T. pallidum*. Relying primarily on darkfield microscopy, aqueous humor specimens from 153 patients were examined, but in no instance were viable organisms observed. In only three patients were the remains of spirochetal microorganisms seen, and in only one of these were they morphologically similar to *T. pallidum*. Small objects composed of two to three spirals were observed in 16 other individuals. These had no relation to syphilis as diagnosed by clinical or serologic criteria.

* * *

PERSISTENCE OF TREPONEMES AFTER TREATMENT. E. M. C. Dunlop—The London Hospital, Moorfields Eye Hospital, London, England. BR MED J (London) 2:577-580, June 3, 1972.

Treponeme-like forms have been found by workers in France, the United States of America, Italy, and Britain in material from patients suffering from late syphilis, even after large amounts of antisyphilitic treatment; they have also been found after the treatment of early syphilis. The organisms have been recovered from lymph nodes, aqueous humor, cerebrospinal fluid, brain, arteries affected by temporal arteritis, and bone. In a few cases persisting organisms have been shown to be *Treponema pallidum*, but in most cases their nature is uncertain and so is their significance to the patient. Author concludes that it is essential that control groups should be studied and any treponeme-like forms should be identified as fully as possible. The subject is reviewed.

* * *

THE NATURAL HISTORY OF SYPHILIS: A REVIEW. Benedict A. Termini and Stanley I. Music—Department of Medicine, Mercy Hospital, Baltimore, Maryland. SOUTH MED J (Birmingham) 65:241-245, February 1972.

The Oslo and USPHS-Tuskegee studies are the only studies which have used large patient groups and which have attempted to follow the natural course of syphilis over long periods of time. The data provided by these studies are unique, and it is unlikely that any similar studies will be done since it would be unethical, in the light of modern concepts of therapy, to allow patients to go untreated. Both studies have been reviewed here. Both studies found an increased morbidity and mortality rate in syphilitics as compared to nonsyphilitic populations. In both

studies it was shown that the majority of the syphilitics suffered no serious ill effects from their disease after the primary and secondary lesions had healed. The frequency of late manifestations of syphilis, particularly cardiovascular and neurosyphilis, was only slightly different in the two groups. On the basis of these data, authors suggest that the current concepts of antibiotic treatment of syphilis be reevaluated to determine whether the long natural history of the disease is being significantly modified.

* * *

BEJEL. Shawky El Serafy—Ministry of Public Health, P.O. Box 42, Doha, Qatar, Arabian Gulf. J LARYNGOL OTOL (London) 86:396-370, April 1972.

Bejel is prevalent among bedouin Arabs. The disease is acquired in childhood, and more than 60 percent of the population are said to be infected before puberty. Usually, no primary lesion is seen. "Lesions of the secondary type consist of generalized papular eruptions. Mucous patches, genital and perineal condylomata are common. In about a year, the lesions disappear, and the child appears healthy. Many years later gummata of nasopharynx, larynx, skin and bones frequently appear, but there is no involvement of the cardiovascular or nervous systems. There is no evidence of infection *in utero*. Wassermann and Kahn tests are positive in bejel." Treatment consists of a single dose of 1.2 mega units of P.A.M. This dose is doubled if there is evidence of bone involvement.

* * *

LATE MUTILATING BEJEL IN THE NOMADIC BEDOUINS OF KUWAIT. M. W. Kanan, M. Abbas and H. Y. Girgis—Consultant Dermatologist, P.O. Box 6050 HL, Kuwait, Arabia. DERMATOLOGICA (Basel) 143:277-287, 1971.

Authors' tract: The clinicopathological findings in three sporadic cases of late mutilating bejel of the mid-face and mouth have been described in two bedouin men and a bedouin woman from the Great Arabian Peninsula on the outskirts of Kuwait. The epidemiology, differential diagnosis and the relevant literature of bejel or non-venereal endemic syphilis have also been discussed.

* * *

Laboratory Diagnosis

FLUORESCENT TREPONEMAL ANTIBODY-CEREBROSPINAL FLUID (FTA-CSF) TEST. A PROVISIONAL TECHNIQUE. W. P. Duncan, T. W. Jenkins, and C. E. Parham—Venereal Disease Research Laboratory, Center for Disease Control, Atlanta, Georgia 30333. BR J VENER DIS (London) 48:97-101, April 1972.

Authors' summary: Cerebrospinal fluid (CSF) from syphilitic patients and nonsyphilitic subjects was examined with the VDRL slide test and with two immunofluorescence procedures—one using undiluted cerebrospinal fluid (CSF) (FTA-CSF test) and one using CSF diluted 1 : 5 with sorbent. The FTA-CSF test was the most reactive and the VDRL test was the least reactive. CSF diluted 1 : 5 in sorbent was less reactive than undiluted CSF.

The FTA-CSF procedure is proposed as a provisional technique for a sensitive CSF test. The current FTA-ABS technique is followed, except that (1) the CSF is not heated; (2) it is not diluted with sorbent; and (3) the report of the test should be limited to reactive or nonreactive results. The FTA-CSF provisional technique requires further clinical and laboratory evaluation by others, in regard both to technical aspects and to the clinical value of increased detection of *T. pallidum* antibody in the CSF. Further nonsyphilitic patients must be studied to determine if false positive reactions ever occur. If subsequent studies confirm the findings presented here, a standard technique for immunofluorescence testing of CSF could be recommended.

* * *

EVALUATION OF THE C.S.F. F.T.A. ABS TEST IN LATENT AND TERTIARY TREATED SYPHILIS. J.D.H. Mahony, J.R.W. Harris, J. Sydney McCann, J. Kennedy, and H. J. Dougan–Department of Venereology, Royal Victoria Hospital, Belfast, N. Ireland, Great Britain. ACTA DERM VENEREOL (Stockholm) 52: 71-74, 1972.

Authors' abstract: Specific tests for *T. pallidum* antibodies are briefly discussed. The cerebrospinal fluid parameters (viz. W. R. Lange curve, protein content, cell count and F.T.A. ABS) are considered in 27 patients with treated latent and tertiary syphilis and related to any clinical evidence of neurosyphilis. It was found that the C.S.F. F.T.A. ABS is better than the other parameters as an indicator of neurosyphilis, being positive in 75 percent of cases with clinical evidence of neurosyphilis but nevertheless negative in a proportion of cases when there is no clinical doubt of the presence of syphilitic C.N.S. involvement. Since the serological F.T.A. ABS was positive in all 27 patients, it is concluded that this is a more sensitive test of all forms of syphilis, including neurosyphilis, in this group of patients. It does not, however, provide a specific test for neurosyphilis. A selective review of the literature of C.S.F. tests in syphilis is carried out. The C.S.F., T.P.I., F.T.A. 200 and F.T.A. ABS are all apparently less sensitive than the serological F.T.A. ABS. The original F.T.A. 1/5 test carried out on the C.S.F., however, appears to be a much more sensitive indicator of neurosyphilis than any other C.S.F. tests, though its specificity is not known.

* * *

FURTHER EVALUATION OF AN AUTOMATED FLUORESCENT TREPONEMAL ANTIBODY TEST FOR SYPHILIS. A. Birry, M. Caloenescu, S.S. Kasatiya–Department of Social Affairs, P.O. Box 412, Ville de Laval, Province of Quebec, Canada. AM J CLIN PATHOL (Baltimore) 57:391-394, March 1972.

Authors' abstract: The SeroMatic system (automated slide-processing equipment) was evaluated for an indirect immunofluorescence test for syphilis. A study of 6,278 sera examined for the fluorescent treponemal antibody test by manual and automated methods revealed agreement of 98.2 percent for 2,505 VDRL-positive sera and 99.8 percent for 3,773 VDRL-negative sera. The reactivity rate of the FTA-ABS was 36.2 percent and that of AFTA was 35.3 percent for VDRL-positive sera, whereas with VDRL-negative sera the reactivity rates of FTA-ABS and AFTA were 12.77 percent and 12.53 percent, respectively. Excellent agreement between the two tests indicates that the FTA-ABS test can be automated successfully for screening large numbers of serologic specimens for syphilis.

* * *

CHARACTERISTICS OF PATIENT SERA, CONJUGATES, AND ANTIGENS USED IN FTA-ABS TESTS. Elizabeth F. Hunter–Bacteriology Branch, Laboratory Division, Center for Disease Control, Atlanta, Georgia 30333. ANN NY ACAD SCI (New York) 177:48-53, June 21, 1971.

Author's conclusions: The FTA-ABS test procedure is widely used for the serologic confirmation of syphilis. The fluorescein-labeled globulin used in this procedure appears to need anti-IgG and anti-IgM specificities, although the effect of antilight-chain activity in predominantly anti-IgG conjugates has not been determined. From reports in the literature and from data obtained in current work at the Venereal Disease Research Laboratory, it appears that antilight-chain activity may be advantageous in FTA-ABS screening, and the monospecific anti-IgG conjugates should be limited to research testing. Fluorescein-labeled anti-IgM globulin is indicated for studies of neonatal congenital syphilis. Cross-reactivity of antihuman conjugates with rabbit serum causes nonspecific staining of some FTA antigens coated with rabbit serum, and washing the suspension of *T. pallidum* is recommended to remove the rabbit proteins. This manipulation also improves visibility of the spirochetes on the finished slides.

* * *

EVALUATION OF THE AUTOMATED MICRO-HEMAGGLUTINATION ASSAY FOR ANTIBODIES TO *TREPONEMA PALLIDUM*. Bernice S. West and Dennis A. Pagano–P.O. Box 1689, Hartford, Connecticut 06101. HSMHA HEALTH REP (Washington) 87: 93-96, January 1972.

Authors' abstract: The trend in syphilis serology has been the increased use of treponemal tests. Because the tests currently in use are complex and time consuming, the simplicity of the quantitative automated micro-hemagglutination assay for antibodies to *Treponema pallidum* (AMHA-TP) makes it appear well suited for use in a public health laboratory.

Nine hundred serums from clinically defined donors were tested with the fluorescent treponemal antibody test and the quantitative automated micro-hemagglutination assay. Close agreement was seen between the results of the two types of tests. No relationship was seen between the AMHA-TP assay titers and the clinical category of the disease. Reproducibility of serum titers was estimated at 92.5 percent. Freezing did not appear to affect the antibody titer. Changes were suggested in the test procedure concerning the use of controls and testing of serums showing minimal results at the initial dilution. Although no advantage was seen in using a quantitative treponemal test, further study of titer response to patient treatment may prove this procedure to be a useful tool.

* * *

THE WANDERING TREPONEME. A POSSIBLE SOURCE OF ERROR IN FLUORESCENT ANTIBODY STAINING OF SPIRAL FORMS IN BODY FLUIDS. Frederick J. Elsas–Center for Disease Control, Venereal Disease Research Laboratory, Atlanta, Georgia 30333. BR J VENER DIS (London) 48:26-28, February 1972.

Author's summary: Fluorescing *T. pallida* were found on previously blank glass slides which were soaked in the same bath as stained antigen smears of *T. pallidum*. No fluorescing spiral forms were found on control slides washed in the presence of FITC-labelled anti-*T. pallidum* globulin. Therefore the stained *T. pallida* floated in the wash bath from the antigen smear to the blank slides. During FA staining, experimental and control smears should be washed separately to avoid contamination of experimental material with *T. pallidum* organisms.

* * *

IgA, IgG AND IgM IMMUNOGLOBULINS IN THE COURSE OF UNTREATED ACQUIRED SYPHILIS (POLISH). A. Jakubowski–Klinika Dermatologiczna AM, ul. Manifestu Lipcowego 3, Bialystok, Poland. PRZEGL DERMATOL (Warszawa) 59:153-161, 1972.

English summary: "The picture of three main immunoglobulin classes and their relation with antitreponemal antibodies in various stages of untreated syphilis was investigated by methods of immunoelectrophoresis, double diffusion in agar gel (494 cases), FTA (270 cases), and FTA-ABS (250 cases). The immunoglobulin picture was demonstrated to be dependent on the stage of the disease. Antitreponemal antibodies detected by the method of FTA and FTA-ABS were found to be bound, irrespective of the stage of the disease, with all the immunoglobulin classes. At the earliest stages of the infection specific antitreponemal antibodies are bound mainly with IgM, and at later stages with IgG. It was demonstrated that in late symptomatic syphilis the level of IgM and the percentage of IgM-bound antibodies detected by FTA and FTA-ABS tests increased again."

* * *

Therapy

TREATMENT FOR EARLY SYPHILIS AND REACTIVITY OF SEROLOGIC TESTS. Arnold L. Schroeter, James B. Lucas, Eleanor V. Price, and Virginia H. Falcone–Venereal Disease Branch, State and Community Services Division, Center for Disease Control, Atlanta, Georgia 30333. JAMA (Chicago) 221:471-476, July 31, 1972.

In a cooperative study, the Venereal Disease Branch, Center for Disease Control, has reevaluated the comparative efficacy of anti-

biotic schedules for the treatment of early syphilis in 586 patients. All parenteral penicillin, tetracycline, and erythromycin treatment schedules recommended by the Public Health Service were studied. Erythromycin in base form, 20 gm, was given in a divided-dose schedule over a ten-day period. Subsequently, the dose of erythromycin had to be raised to 30 gm because of a high failure rate. All penicillin schedules tested showed a satisfactory cure rate with a cumulative retreatment rate of only 10 percent in the 24-month observation period. The 30-gm schedule of erythromycin base proved as effective as tetracycline and penicillin G.

Although it is the most sensitive serologic test for syphilis, the FTA-ABS test had a marked decrease of reactivity after treatment of seronegative (VDRL) primary syphilis. The FTA-ABS test, having the highest reactivity rate before treatment in all stages of syphilis, responded more slowly to therapy than either the VDRL or the TPI test.

* * *

IMMEDIATE RESULTS OF TREATMENT WITH PENICILLIN AND COBALT DRUGS OF PATIENTS WITH INFECTIOUS FORMS OF SYPHILIS (RUSSIAN). T. V. Vasiliev and N. V. Odinokov. VESTN DERMATOL VENEROL (Moskva) 46:55-62, January 1972.

English summary: "The authors observed 190 patients with infectious forms of syphilis treated with penicillin in combination with cobalt drugs (coamide, ziancobalamine). The first course of antisyphilitic treatment was given in a hospital and subsequently in dermatovenereological dispensaries. While the patients were hospitalized, observations of regression of syphilids, standard serological reactions, morphology of blood and other studies were carried out; concentration of penicillin in the blood serum was determined; immunological and autoimmunological responsiveness of the organism was investigated. The results of the study indicate the effectiveness of the treatment given. Under the effect of treatment with penicillin and cobalt drugs syphilids regressed energetically, standard serological reactions negativated actively in the process of hospital and subsequent out-patient treatment, immune correlations were reestablished in the organism. At the end of the course of treatment increased concentration of penicillin in the blood serum was observed as compared with that at the beginning of treatment. The treatment was tolerated well by all the patients. The effectiveness of penicillin increased upon combining it with coamide or with vitamin B_{12} in a dose of 400-500 mkg as compared with that after combining the antibiotic with vitamin B_{12} in a dose of 200-250."

* * *

Selected Bibliography

Syphilis - Clinical

Boghen D: A case of spinal syphilitic paralysis of the ERB type (FRENCH). UNION MED CAN, Montreal 101:487-490, Mar 1972.

Brinza RV: Results of clinico-serological investigations in a group of children with treated congenital syphilis (RUMANIAN). PEDIATRIA, Bucuresti 20:547-552, Nov-Dec 1971.

*Bulova SI, Schwartz E, Harrer WV (Letter to Editor): Hydrops fetalis and congenital syphilis. PEDIATRICS, Springfield 49:285-287, Feb 1972.

*Catterall RD: Systemic disease and the biological false positive reaction. BR J VENER DIS, London 48:1-12, Feb 1972.

Collomb H, Girard PL, Dumas M: Neurosyphilis and cerebrovascular complications in Senegal (FRENCH). BULL SOC MED AFR NOIRE LANG FR, Dakar 14:821-825, 1969.

Degos R: Syphilis and pregnancy (FRENCH). REV FR GYNECOL OBSTET, Paris 66:551-555, Oct 1971.

*Drescher E: Destructive bone processes in early infancy (GERMAN). FORTSCHR GEB ROENTGENSTR NUKLEARMED, Stuttgart 116:569-571, Apr 1972.

*Dunlop EM: Persistence of treponemes after treatment. BR MED J, London 2:577-580, Jun 3, 1972.

Dziadiw R, Kinkhabwala M, Rabinowitz JG: Pulmonary gumma. RADIOLOGY, Syracuse 103:59-60, Apr 1972.

Hasselmann CM: On endemic, "non-venereal" syphilis. INT J DERMATOL, Philadelphia 11:57-61, Jan-Mar 1972.

*Hill LL, Singer DB, Falletta J, et al: The nephrotic syndrome in congential syphilis: An immunopathy. PEDIATRICS, Springfield 49:260-266, Feb 1972.

*Hooshmand H, Escobar MR, Kopf SW: Neurosyphilis. A study of 241 patients. JAMA, Chicago 219:726-729, Feb 1972.

Jastrzebska D, Zukowski H: Acquired syphilis in children. Report of 2 cases (POLISH). PRZEGL DERMATOL, Warszawa 59:33-36, Jan-Feb 1972.

*Kanan MW, Abbas M, Girgis HY: Late mutilating bejel in the nomadic bedouins of Kuwait. DERMATOLOGICA, Basel 143:277-287, 1971.

*Kingsbury DH, Chester EC Jr., Jansen GT: Syphilitic paronychia: An unusual complaint (Letter to Editor) ARCH DERMATOL, Chicago 105:458, Mar 1972.

Lebensohn JE: Centenary of the Honer and Argyll Robertson pupillary syndromes. PROC INST MED CHIC, Chicago 28:65, Mar 1970.

Martin JP: British neurology in the last fifty years: Some personal experiences. PROC R SOC MED, London 64:1055-1059, Oct 1971.

Okamoto S, Tanabe Y, Tanaka Y: Syphilis serum reaction – dermatological aspects (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:17-19, Aug 1971.

*Parker JD: Uncommon complications of early syphilis. Hepatitis, periostitis, iritis with papillitis, and meningitis. BR J VENER DIS, London 48:32-36, Feb 1972.

Pillai RR: A case of undiagnosed syphilis presenting with glossitis. DENT DIG, Pittsburgh 78:190-193, Apr 1972.

Quenum C, Abondo A: Vascular aneurysms in the Africans: Anatomical documentation (FRENCH). AFR J MED SCI, Oxford 3:41-44, Jan 1972.

*Abstracted

*Raney AM: Unusual manifestations of syphilis of long duration. NY STATE J MED, New York 72:1062-1064, May 1, 1972.

Roczniok B, Smilgin B, Kossmann S: Case of tabetic arthropathy associated with ankylosing spinal hyperostosis (POLISH). POL TYG LEK, Warszawa 27:494-495, Mar 27, 1972.

*Rodin IUA, Komarovskaia VN: Function of the subcutaneous lymph nodes in syphilis (RUSSIAN). VESTN DERMATOL VENEROL, Moskva 46:61-65, May 1972.

*Ryan SJ, Nell EE, Hardy PH: A study of aqueous humor for the presence of spirochetes. AM J OPHTHALMOL, Chicago 73:250-257, Feb 1972.

Ryan SJ, Hardy PH, Hardy JM, et al: Persistence of virulent *Treponema pallidum* despite penicillin therapy in congenital syphilis. AM J OPHTHALMOL, Chicago 73:258-261, Feb 1972.

Schiffter R: Bilateral horizontal gaze paralyses. Clinical analysis of three cases (GERMAN). Z NEUROL, Berlin 200:291-307, 1971.

*Serafy S: Bejel. J LARYNGOL OTOL, London 86:396-370, Apr 1972.

Takada M, Kobayashi T, Boku Y: Re-examination of syphilis serum reaction — syphilis in pregnancy (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:19-20, Aug 1971.

*Termini BA, Music SI: The natural history of syphilis: A review. SOUTH MED J, Birmingham 65:241-245, Feb 1972.

Waugh M: Syphilis as a cause of backache. BR MED J, London 1:803, Mar 25, 1972.

Weber G, Falk U: Case report of late congenital syphilis treated with Ehrlich 606 (GERMAN). HAUTARZT, Berlin 22:521-523, Dec 1971.

*Willcox RR, Goodwin PG: Nerve deafness in early syphilis. BR J VENER DIS, London 47:401-406, Dec 1971.

Syphilis - Laboratory Diagnosis

Amoroso AC: Significance of the FTA-absorption test in lues diagnosis (GERMAN). OEFF GESUNDHEITSWES, Stuttgart 33:665-668, Oct 1971.

*Birry A, Caloenescu M, Kasatiya SS: Further evaluation of an automated fluorescent treponemal antibody test for syphilis. AM J CLIN PATHOL, Baltimore 57:391-394, Mar 1972.

*Duncan WP, Jenkins TW, Parham CE: Fluorescent treponemal antibody-cerebrospinal fluid (FTA-CSF) test. A provisional technique. BR J VENER DIS, London 48:97-101, Apr 1972.

*Elas FJ: The wandering treponeme. A possible source of error in fluorescent antibody staining of spiral forms in body fluids. BR J VENER DIS, London 48:26-28, Feb 1972.

Eschment R: The FTA-test in lues diagnosis (GERMAN). Z ALLGEMEINMED, Stuttgart 48:160-162, Feb 10, 1972.

Fukuoka Y, Aikawa M, Taniguchi M: Evaluation of automated serological tests, with special reference to syphilis serodiagnosis (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:839-846, Dec 1971.

Heitmann HJ: Quantitative determination of cerebrospinal fluid immunoglobulins (IgG) in syphilis with and without neurologic manifestations (GERMAN). HAUTARZT, Berlin 23:31-33, Jan 1972.

Heitmann HJ: Recent immunobiological studies on syphilis (GERMAN). Z HAUT GESCHLECHTSKR, Berlin 47:433-440, May 1972.

Hori M, Murata J, Miyazawa S: Clinical evaluation of syphilis-sensitized erythrocyte agglutination reaction (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:467, Aug 1971.

*Hunter EF: Characteristics of patient sera, conjugates, and antigens used in FTA-ABS tests. ANN NY ACAD SCI, New York 177:48-53, Jun 21, 1971.

*Jakubowski A: IgA, IgG and IgM immunoglobulins in the course of untreated acquired syphilis (POLISH). PRZEGL DERMATOL, Warszawa 59:153-161, 1972.

Kahn RL: Syphilis serology with lipoidal antigen: The meaning of positive reactions. J NATL MED ASSOC, New York 64:117-121 PASSIM, Mar 1972.

Kasatiya SS, Birry A: The use of incident light in immunofluorescence applied to syphilis serology. AM J CLIN PATHOL, Baltimore 57:395-399, Mar 1972.

Kawase M, Hara I: Serological diagnosis of syphilis by FTA-ABS and TPHA (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:466, Aug 1971.

Kern A: Possibilities and limits of routine syphilis serodiagnosis (GERMAN). DTSCH GESUNDHEITSW, Berlin 27:178-184, Jan 27, 1972.

Kosmiderski S, Burczek R, Polak S: Polystyrene latex used for VDRL tests (POLISH). POL TYG LEK, Warsawa 26:1696-1697, Nov 1971.

*Mahony JD, Harris JR, McCann JS, et al: Evaluation of the C.S.F.T.A. ABS test in latent and tertiary treated syphilis. ACTA DERM VENEREOL, Stockholm 52:71-74, 1972.

Martin RS: Syphilis serology. Its aids and limitations in the diagnosis of syphilis. NS MED BULL, Halifax 51:36-40, Apr 1972.

Meyer-Rohn J, Frohlich E: Suitability of the rapid-plasma-reagin-test (RPR) for syphilis diagnosis in the hospital and general practice (GERMAN). Z HAUT GESCHLECHTSKR, Berlin 47:445-447, May 1, 1972.

Nadazdin M: Significance of sorbent agents used in the fluorescent treponemal absorption test (FTA-ABS) (CROATIAN). MED ARH, Sarajevo 23:101-104, Mar-Dec 1970.

Neblett TR, Burnham TK (Letter to Editor). Atypical FTA in lupus erythematosus. ARCH DERMATOL, Chicago 105:296, Feb 1972.

O'Neill P, Johnson GD: A semiautomatic procedure for routine screening by immunofluorescence techniques. ANN NY ACAD SCI, New York 177:446-452, Jun 21, 1971.

Onoda Y: Results of various types of syphilis serodiagnosis and clinical symptoms (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:21-22, Aug 1971.

Picandet AM: Serological diagnosis of syphilis, using immunofluorescence (FRENCH). ACTA CLIN BELG, Bruxelles 26:146-156, 1971.

Sazonova LV, Sych LI: Sensitivity of *Treponema pallidum* immobilization test (RUSSIAN). VESTN DERMATOL VENEROL, Moskva 46:52-55, Jan 1972.

Stout GW, Lewis JS: Automation of an indirect fluorescent antibody test for syphilis. ANN NY ACAD SCI, New York 177:453-458, Jun 21, 1971.

Tokunaga E: Syphilis serodiagnosis and blood donor selection (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:23, Aug 1971.

Watanabe T: Syphilis and serological reactions (JAPANESE). J JAP DENT ASSOC, Tokyo 24:594, Sep 1971.

*West BS, Pagano DA: Evaluation of the automated micro-hemagglutination assay for antibodies to *Treponema pallidum*. HSMHA HEALTH REP, Washington 87:93-96, Jan 1972.

Yamada N, Kubo E: Micro-analysis in TPHA test (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:465, Aug 1971.

Syphilis - Therapy

Beurey J, Weber M, Janot C: Allergy during syphilis. Value of the lymphoblastic transformation test (FRENCH). ANN DERMATOL SYPHILIGR, Paris 98:536-538, 1971.

Ekbom K: Carbamazepine in the treatment of tabetic lightning pains. ARCH NEUROL, Chicago 26:374-378, Apr 1972.

*Abstracted

Heinke E: Dark-ground investigation of the effect of triamphenicol on *Treponema pallidum*. POSTGRAD MED J, London 48:SUPPL 1:55, Jan 1972.

Kazan MZ, Frigo IV, Novikova SI: Pyrogenal in treatment of patients with active and latent forms of syphilis (RUSSIAN). VESTN DERMATOL VENEROL, Moskva 46: 62-65, Jan 1972.

Kern A, Sonnichsen N; Current penicillin therapy of syphilis from a critical viewpoint (GERMAN). Z AERZTL FORTBILD, Jena 65:887-895, Sep 1, 1971.

*Schroeter AL, Lucas JB, Price EV, et al: Treatment for early syphilis and reactivity of serologic tests. JAMA, Chicago 221:471-476, Jul 31, 1972.

*Vasil'ev TV, Odinokov NV: Immediate results of treatment with penicillin and cobalt drugs of patients with infectious forms of syphilis (RUSSIAN). VESTN DERMATOL VENEROL, Moskva 46:55-62, Jan 1972.

*Abstracted

GONORRHEA

Clinical

RECTAL AND PHARYNGEAL GONORRHEA IN HOMOSEXUAL MEN. Robert L. Owen and J. Lawrence Hill—Epidemiology Program, Center for Disease Control, Atlanta, Georgia 30333. JAMA (Chicago) 220:1315-1316, June 5, 1972.

Authors' abstract: To identify and treat rectal gonorrhea in male homosexuals, a physician took rectal, pharyngeal, and urethral specimens from all of his known homosexual patients. Of 26 patients with general medical complaints five had rectal gonorrhea, as did 19 of the 46 patients suspected of having this infection and two of seven with urethritis. Similar rectal symptoms occurred in those with and those without rectal gonorrhea, suggesting that the symptoms are not directly related to gonorrheal infection. Pharyngeal cultures from 11 patients were positive for gonorrhea, but only three patients were symptomatic. Neither of two common regimens used for treatment in one visit (4,800,000 units of penicillin G procaine administered intramuscularly or 3 gm of tetracycline hydrochloride taken orally) was effective enough to use without follow-up cultures. Homosexuals are important carriers of gonorrhea; rectal and pharyngeal cultures are essential for diagnosis and treatment of these patients.

* * *

TENDER INGUINAL LYMPH NODES AND GONOCOCCAL URETHRITIS. William A. Akers—Editor, Box 666, Letterman Institute of Research, Presidio of San Francisco, California 94129. MILIT MED (Washington) 137:107-108, March 1972.

Author's summary: In a study of 356 patients with urethritis, the following observations are reported: (1) One in three men with urethritis had an accompanying inguinal lymphadenopathy. (2) If a man with a urethral discharge has palpable, enlarged tender inguinal lymphadenopathy, the odds are nine in ten that he has gonococcal urethritis (at the 95 percent level). (3) A prepuce occluding the urethral meatus predisposes toward developing inguinal lymphadenopathy. (4) Follow-up serological test for syphilis must be done at three and six months. None of these patients developed syphilis during the follow-up period.

* * *

CUTANEOUS LESIONS ASSOCIATED WITH BENIGN GONOCOCCAEMIA. L. Forstron, K.K. Mustakallio, A. Sivonen, and M. Kousa—Department of Dermatology and Venereology, University Central Hospital, Snellmaninkatu 14, 00170 Helsinki 17, Finland. ANN CLIN RES (Helsinki) 4:49-54, February 1972.

Authors' abstract: Since 1965 we have seen nine cases of cutaneous lesions associated with benign gonococcaemia at our clinic. All the patients had typical skin lesions, episodes of fever and polyarthralgia, and eight of them had positive cultures of gonococci from urethra or cervix or both. In two of the patients a blood culture taken during a rise in temperature revealed gonococci. Few investigators have succeeded in demonstrating gonococci in blood cultures from patients with cutaneous lesions associated with benign gonococcaemia, apparently because gonococci are unlikely to grow from blood samples unless the blood is drawn during times of febrile peaks. In both of our patients a new blood culture was negative the following morning, when the rise in temperature was over, although treatment had not yet been started. Also the composition of the blood culture medium is important for the growth of gonococci. We made double blood cultures (aerobic and anaerobic) in casein hydrolysate-soy bottles with CO_2. Gonococci were found only in the anaerobic bottles and in one patient only after 10 days of incubation.

As the symptoms of gonorrhea may be lacking and because the clinical picture of cutaneous lesions associated with benign gonococcaemia may be indistinguishable from that described in connection with meningococcaemia, this syndrome should be borne in mind by clinicians other than dermatovenereologists.

* * *

Laboratory Diagnosis

SURVIVAL OF GONOCOCCI OUTSIDE THE BODY (Letter to Editor). T. Elmros, P.-A. Larsson–Department of Bacteriology and Dermatology, University of Umea, Sweden. BR MED J (London) 2:403-404, May 13, 1972.

In order to shed further light on the possibility of acquiring gonorrhea by non-venereal contact, the following experiment was carried out.

"Urethral discharge from male patients with positive direct smears and cultures was put on a clean glass slide or on a piece of towel. Each slide and towel with a small amount of exudate was placed in a Petri dish and kept on a bench in the laboratory at room temperature. At different intervals the air dried exudates were then washed off the slides with physiological saline and the towels were swabbed in the same solution. The washing fluids were transferred to haematin agar for culturing. Tests for surviving gonococci were made by conventional bacteriological techniques – namely, the presence of typical colonies, positive oxidase tests, and carbohydrate fermentation reactions.

"Ten patients have been studied up to the present. For each patient the urethral discharge was tested at only one interval after its collection. The maximal period of gonococcal survival found hitherto has been 24 hours for discharge transferred to the towels and 17 hours for the slides."

* * *

MAINTENANCE OF VIRULENT GONOCOCCI IN LABORATORY CULTURE. P. J. Watt, A. A. Glynn, M. E. Ward–Wright-Fleming Institute, St. Mary's Hospital Medical School, London W2, England. NATURE (NEW BIOL) (London) 236: 186-187, April 12, 1972.

"If one postulates that loss of gonococcal virulence occurs in two steps, type 1 organisms might be phenotypically avirulent while the type 4 colonies might have actually lost the genetic information required for virulence. The vast dose used to challenge volunteers would enable a few gonococci to survive in the host long enough to revert to the phenotypically virulent form."

In this study, authors have compared the abilities of human prostate extract and of colonial type (CT) medium to maintain virulence in gonococci grown in the laboratory. Surgically removed prostates were distintegrated at −20°C and then homogenized with buffered saline. After centrifuging for one hour, the supernatant was sterilized by filtration and stored frozen at −20°C. Urethral exudates from patients with active gonorrhea were cultured on CT medium and on prostate extract solidified with an equal volume of 2 percent ion agar No. 2 in PBS. About 10^6 gonococci contained in 50 ul of this suspension were added to 450 ul of normal human serum as a source of natural antibody and complement and to the same serum plus a 1 in 100 dilution of each of ten rabbit antigonococcal sera. After incubation for one hour at 37°C, the number of surviving gonococci were counted using techniques described previously.

The results of fourteen such experiments are shown. When grown on prostate extract all the gonococcal strains were considerably more resistant to the bactericidal action of normal human serum than when grown on CT medium (mean survival on prostate extract 70%, CT medium 2%). Like gonococci in urethral exudates, the organisms grown on prostate extract proved resistant to killing by complement plus polyvalent rabbin antisera. This effect was shown for all of nine prostate extracts. Five freshly isolated gonococci, which when grown on CT medium were rapidly killed by antibody plus complement (mean survival 0.4%), immediately reverted to resistance after subculture onto prostate extract (mean survival 48%).

* * *

THE RECTAL CULTURE AS A TEST OF CURE OF GONORRHEA IN THE FEMALE. Arnold L. Schroeter and Gladys Reynolds–Venereal Disease Branch, State and Community Services Division, Center for Disease Control, Atlanta, Georgia 30333. J INFECT DIS (Chicago) 125:499-503, May 1972.

Authors' abstract: If a single culture specimen is used as a screening test for gonorrhea, the cervical site is preferred. Culturing the

anal canal in addition to the cervix significantly increases the number of cases diagnosed. The rectal and cervical sites were compared as test of cure in 908 female patients who had gonorrhea. After treatment, positive cervical or rectal cultures (or cultures of both sites) were found in 10.6 percent of the patients. Thirty percent of the therapeutic failures would have been missed if only the cervical site had been tested. It was also found that antibiotic therapy is more likely to fail if *Neisseria gonorrhoeae* infects both the cervix and rectum. If antibiotic therapy is adequate, rectal gonorrhea is no more difficult to cure than cervical gonorrhea.

* * *

SEROLOGICAL DIAGNOSIS IN GONORRHOEA. A. A. Glynn, P. J. Watt—Wright-Fleming Institute of Microbiology, St. Mary's Hospital Medical School, London, England. POSTGRAD MED J (London) 48:SUPPL 1:23-24, January 1972.

With Dr. M. E. Ward, authors repeated the complement fixation test using the purified protoplasmic antigen described by Schmale *et al* and the improved version of the gonococcal complement fixation test described by Magnusson and Kjellander. The percentage of positive results in known cases of gonorrhea tested was very similar to those originally reported; however, authors found more positives among the controls. The reason for this is not clear, but authors feel it may be a question of selection. Sera in this study were collected from laboratory staff and medical students who specifically denied ever having suffered from a gonococcal infection.

In addition, based on the preliminary work of Glynn and Ward (1970), authors tried a hemagglutination test using gonococcal lipopolysaccharides attached to glutaraldehyde-fixed red cells. The advantage of glutaraldehyde-fixed cells is that large batches of sensitized cells may be prepared and stored, thus reducing variation in the antigen. The results showed that choice of the gonococcal strains from which the antigen is prepared is extremely important.

* * *

A COMPARISON OF SEROLOGICAL TESTS FOR THE DIAGNOSIS OF GONORRHOEA. P. J. Watt, M. E. Ward and A. A. Glynn—Bacteriology Department, Wright-Fleming Institute, St. Mary's Hospital Medical School, London, W.2, England. BR J VENER DIS (London) 47:448-451, December 1971.

Authors' summary: Four different serological tests for the diagnosis of gonorrhea have been compared on the same collection of patient and control sera. The complement-fixation tests devised by Magnusson and Kjellander (1965) and by Reising and his colleagues (1969) gave positive results in 8 and 12 percent of control individuals, 62 and 71 percent of infected women and 39 and 17 percent of infected men respectively. An agglutination test using gonococcal lipopolysaccharide adsorbed onto latex particles gave positive results in 15 percent of controls, 54 percent of infected women, and 46 percent of infected men.

The purified antigens used showed evidence of strain specificity. Authors were unable to discriminate between patient and control sera using the Wallace bentonite flocculation test, even though specific agglutination was obtained with rabbit antigonococcal sera. It is concluded that the Magnusson and Kjellander test can be a useful adjunct in the diagnosis of gonorrhea. However, the level of false positive results in all the tests is too high to permit their use in screening for asymptomatic reservoirs of infection in the population.

* * *

NEISSERIA GONORRHOEAE: COLONIAL MORPHOLOGY OF RECTAL ISOLATES. Michael T. Kovalchik and Stephen J. Kraus—Venereal Disease Research Laboratory, Center for Disease Control, Atlanta, Georgia 30333. APPL MICROBIOL (Baltimore) 23:986-989, May 1972.

Authors' abstract: Four principal colony types of gonococci have been previously described, and it has been shown that primary isolates from the urethra and cervix are primarily of colony types 1 and 2. In the present work, gonococcal isolates from the rectum were also shown to be predominantly colony types 1

and 2. Visualization and typing of gonococcal colonies in primary rectal isolates were facilitated by the use of medium containing vancomycin, colistin, nystatin, and in some cases, trimethoprim lactate. Control experiments showed that these agents sometimes caused minor alterations in colonial morphology; but with knowledge of these alterations satisfactory colonial typing could be made.

* * *

HUMAN ANTIBODY RESPONSE TO LIPOPOLYSACCHARIDES FROM *NEISSERIA GONORRHOEAE*. M. E. Ward and A. A. Glynn–Department of Bacteriology, St. Mary's Hospital Medical School, London, England. J CLIN PATHOL (London) 25:56-59, January 1972.

Authors' synopsis: Red cells coated with lipopolysaccharides from three different strains of *Neisseria gonorhoeae* have been used as antigens in a haemagglutination test for gonococcal antibodies. For each strain the geometric mean titre in sera from 50 male and 25 female patients was significantly higher than that in 50 normal controls. The most useful smooth strain, G1, picked out 84 percent of females and 46 percent of males from a group of patients known to have gonorrhea, but only gave 2 percent positives among controls. The rough strain, G2 gave 10 percent positives among controls, and 31 percent in patients. The results suggest that the method is worth developing further as a diagnostic test and that strain differences are important. False positives were probably due to cross-reacting antibodies.

* * *

A COMPARATIVE EVALUATION OF TRANSGROW AND STUART'S TRANSPORT MEDIUM IN THE DIAGNOSIS OF GONOCOCCAL INFECTION. Shelia Toshach, Eileen Kadis and Margo Diadio–Provincial Laboratory of Public Health, Edmonton, Alberta. CAN J PUBLIC HEALTH (Toronto) 63:261-264, May-June 1972.

Authors' abstract: One thousand duplicate specimens from patients at a venereal disease clinic were cultured for gonococci. A smaller duplicate series was cultured from patients in Northern Canada. One specimen per patient was submitted in Stuart's transport medium (Amies modification) and subsequently cultured on modified Amies medium containing polymyxin and vancomycin. The duplicate specimen was inoculated directly to Transgrow medium (Martin and Lester) to which 5_{ug}/ml trimethoprim had been added.

While Stuart's transport medium showed slight superiority in number of isolations, either method appears to be satisfactory for the isolation of gonococci. The Transgrow medium has the advantage of speed, ease of reading and elimination of subculturing procedures. The [Stuart's] transport medium provides a specimen from which other infections such as trichomoniasis, condidiasis, etc., may be investigated.

* * *

Therapy

GONORRHEA–DIAGNOSIS AND TREATMENT. Arnold L. Schroeter, and James B. Lucas–Mayo Clinic, Rochester, Minnesota 55901. OBSTET GYNECOL (New York) 39:274-285, February 1972.

Authors' abstract: Controlling the gonorrhea epidemic in the United States will depend on good clinical management of individual infected patients. The diagnoses of *Neisseria gonorrhoeae* infections can best be made with culture using Thayer-Martin selective medium or a new transport medium, Transgrow, if optimal technics for obtaining and handling culture specimens are used. The reason for therapy failure in many cases is not the development of partially resistant gonococcal isolates, but the use of ineffective antibiotics as well as inadequate dosage. A survey of recent studies documents that adequate doses of procaine penicillin with probenecid or tetracycline remain effective therapy for acute *N. gonorrhoeae* infection.

* * *

SINGLE-DOSE ORAL TREATMENT OF GONORRHOEA IN MEN AND WOMEN, USING AMPICILLIN ALONE AND COMBINED WITH PROBENECID. Anne Bro-Jorgensen and Tage Jensen–Tietgensgade 31, Copenhagen, Denmark. BR J VENER DIS (London) 47:443-447, December 1971.

Authors' summary: An account is given of single-dose treatment of uncomplicated gonorrhea in 1,915 males and 921 females with the oral administration of either 1 g. or 2 g. ampicillin alone, or the same combined with 1 g. probenecid.

In about 30 percent of cases the infections were caused by gonococci with reduced sensitivity to penicillin. The best reults were obtained by the combined treatment, the cure rates being 98.1 percent for males and 97.7 percent for females. There was no significant difference between the results obtained with the combined treatment, using either 1 g. or 2 g. ampicillin. Even for infections caused by less sensitive strains the cure rates were high; using 1 g. or 2 g. ampicillin plus probenecid the overall cure rates were 94.3 and 96.8 percent respectively.

In 37 percent of the cases in women, gonococci could be demonstrated in cultures from the rectum. The cure rate in these cases was identical with that found in patients harboring gonococci in the urogenital tract only. Cases of treatment failure in the groups receiving 2 g. ampicillin alone, or 1 or 2 g. ampicillin combined with probenecid, were retreated with the initial drug therapy. By this retreatment 85 percent were cured. No side-effects from the treatment were observed.

* * *

SINGLE-SESSION TREATMENT OF GONORRHEA AND ITS EFFECT ON *Treponema pallidum* (GERMAN). Detlef Petzoldt–Dermatologische Klinik und Poliklinik der Ludwig Maximilians-Universitat Munchen, West Germany. HAUTARZT (Berlin) 22:523-527, December 1971.

An experimental study on the treatment of rabbit syphilis in 14 rabbits with oral thiamphenicol (2.5g per animal) is reported. Cure was obtained in the treated rabbits; syphilis followed its usual course in the controls.

Also reported here is a comparative study in which 122 patients (109 males, 13 females) with acute gonorrhea received one intramuscular injection of 4 million units of penicillin (Megacillin forte). Diagnosis was confirmed microscopically and culturally; control examinations took place 3, 6 and 13 days after treatment. In the same way, 139 patients (130 males, 9 females, with acute gonorrhea) received 2.5 g of thiamphenicol (Urfamycin) orally (single dose). Of those receiving penicillin, 113 were cured, 9 had relapses or reinfections, and the cure rate was 92.6 percent. Of those receiving thiamphenicol, 131 were cured, 8 had relapses or reinfections, with a cure rate of 94.2 percent. It is concluded that by such treatment a simultaneously acquired syphilis would be cured along with the gonorrhea. Many aspects of this problem are discussed and the experiments are described in detail.

* * *

THE USE OF CEPHALEXIN IN THE TREATMENT OF GONORRHEA. C.F.D. Ackman, E. C. Reid, and Yves Homsy–(Dr. Reid) Department of Urology, the Montreal General Hospital, 1650 Cedar Avenue, Montreal 109, Quebec. CAN MED ASSOC J (Toronto) 106:350-351, February 19, 1972.

Authors' summary: A clinical trial of cephalexin in the treatment of gonorrhea was carried out in 26 adult patients. The cure rate was 73 percent. There was a relapse rate of 11.3 percent and persistence of the pathogen in 15.4 percent. A linear relationship between dosage and cure rate could not be demonstrated. Disc sensitivity testing did not correlate well with clinical results. It is concluded that cephalexin in useful as a second line drug in gonorrhea after sensitivity of the organism has been demonstrated.

* * *

TREATMENT OF ACUTE GONORRHOEA WITH A SINGLE ORAL DOSE OF RIFAMPICIN. Jytte Panduro–Rudolph Bergh's Hospital, 4760 Vordingborg, Denmark. BR J VENER DIS (London) 47:440-442, December 1971.

Author's summary: 118 patients (76 men and 42 women) with gonorrhea were treated with a single oral dose of 900 mg. Rifampicin(Rimactane (CIBA)); of the 98 patients followed up (62 men and 36 women), 86.8 and 91.4 percent respectively were cured with this treatment as compared with 100 percent of a control group treated with 1 g. probenecid and a single injection of 5 m.u. sodium penicillin G. Rifampicin is well tolerated, and only one case of vomiting immediately after administration of the tablet was recorded, but this patient received a second dose of rifampicin without any side-effects and was cured. Author found that rifampicin is a useful alternative to penicillin in cases in which the latter cannot be administered.

* * *

TREATMENT OF GONORRHEA WITH SPECTINOMYCIN HYDROCHLORIDE: COMPARISON WITH STANDARD PENICILLIN SCHEDULES. W. Christopher Duncan, William R. Holder, David P. Roberts, and John M. Knox–Department of Dermatology and Syphilology, Baylor College of Medicine, Houston, Texas 77025. ANTIMICROB AGENTS CHEMOTHER (Washington, D.C.) 1:210-214, March 1972.

Authors' abstract: Spectinomycin hydrochloride, a new parenteral antibiotic prepared from *Streptomyces spectabilis*, was compared with standard U.S. Public Health Service-recommended dosages of aqueous procaine penicillin G in the treatment of uncomplicated gonorrhea in 353 men and 314 women. Of the 314 women, 130 had a pretreatment positive rectal culture. All diagnoses were proven by culture on Thayer-Martin selective medium. Minimal inhibitory concentrations of both drugs were determined. Single doses of 2 and 4 g of spectinomycin were compared with 2.4 million units of procaine penicillin in males and with both 2.4 and 4.8 million units of procaine penicillin in females. Both spectinomycin schedules, 2.4 million units of penicillin in males and 4.8 million units of penicillin in females, resulted in cure rates in excess of 90 percent. There were no failures at the rectal site only in those women with positive rectal cultures. There was no advantage to using the larger amount of spectinomycin in either sex.

* * *

SPECTINOMYCIN AND PENICILLIN G IN THE TREATMENT OF GONORRHEA. A COMPARATIVE EVALUATION. Alf H. B. Pedersen, Paul J. Wiesner, King K. Holmes, Carl J. Johnson, Marvin Turck–(Dr. Holmes) 1131 14th Avenue-South, Seattle, Washington 98114. JAMA (Chicago) 220:205-208, April 10, 1972.

Authors' abstract: Patients with uncomplicated gonorrhea received either 2.0 gm or 4.0 gm of spectinomycin hydrochloride or currently recommended doses of penicillin G procaine. Of 172 men reexamined within seven days after treatment of gonococcal urethritis, treatment failure rates were 17 percent for 2.4 mega units of penicillin G procaine, 0 percent for 2 gm of spectinomycin hydrochloride, and 3.4 percent for 4 gm of spectinomycin hydrochloride. Of 143 women, failure rates were 13 percent for 4.8 mega units of procaine penicillin G, 4.3 percent for 2 gm of spectinomycin hydrochloride, and 4.7 percent for 4 gm of spectinomycin hydrochloride. Pretreatment isolates of *Neisseria gonorrhoeae* from patients not cured with penicillin G procaine showed increased resistance to penicillin G ($P < .01$). However, this may not be clinically important, since neither pretreatment nor posttreatment isolates of *N. gonorrhoeae* from spectinomycin treatment failures showed increased resistance to spectinomycin.

* * *

SINGLE-DOSE TREATMENT OF GONORRHOEA AND ITS EFFECT ON *Treponema pallidum*. D. Petzold–University Dermatological Clinic and Poly-clinic, Munich, Germany. POSTGRAD MED J (London) 48:SUPPL 1:61-65, January 1972.

Author reviewed the earlier work on prophylaxis and abortive treatment of syphilis in

animals (Duke and Rake – 1945, Eagle *et al* – 1947). The results of these studies indicated that a single-dose treatment of acute gonorrhea could cure a simultaneously acquired syphilis. However, these animal experiments were performed without consideration of the serum levels of the antibiotics used (sodium penicillin B in peanut oil and beeswax, partially purified penicillin G). Since the duration of an adequate antibiotic serum level was very important, more animal experiments were done for this present study. The rabbits received penicillin or thiamphenicol in such doses that their antibiotic serum levels were very similar to those of patients receiving the single-dose treatment with 4 megaunits penicillin or 2.5 grams thiamphenicol. The findings indicated that a continuous serum level of more than 0.03 I.U. penicillin/ml or of more than 2_ug thiamphenicol over a period of 24 hours was curative in the treatment of experimental syphilis in a very early period of incubation (3 days). Considering the similarity of penicillin and thiamphenicol serum levels in man and rabbit, author feels it may be concluded that a single-dose treatment of acute gonorrhea may be sufficient to cure a simultaneously acquired syphilis.

* * *

RESULTS OF THE MINUTE TREATMENT OF GONORRHOEA IN 26,339 CASES. A. Siboulet–Department of Urology, Hospital Saint Louis, Paris, France. POSTGRAD MED J (London) 48:Suppl 1:65-70, January 1972.

From 1961-1970, the minute treatment was prescribed for 23,485 male patients suffering from acute or subacute gonorrhea, and for 2,854 female patients suffering from gonococcal urogenital inflammation or having regular intercourse with men affected with gonorrhea whose laboratory tests confirmed the diagnosis. The treatment was administered as an oral or as a single intramuscular dose. After a trial with the oral administration of spiramycin (Rovamycin) 2.5 grams with excellent results, author states he presently prefers a dosage of 10 pills of 25 mg each of thiamphenicol taken with water 5 at a time. A single intramuscular dose of penicillin was used, never less than 3 megaunits at one injection. Author's preference is the medium-delayed action penicillin such as Biclinocilline or Penextilline. Also used were intramuscular injections of kanamycin in a 2 gram dose, and gentamycin in a 240 mg dose.

Out of 7,910 patients receiving oral thiamphenicol, 1.6 percent were failures. Of 2,040 patients treated with a single injection of 3 megaunits medium-delayed action penicillin, 0.54 percent failures resulted. Less than 8 days following oral administration, fourteen cases of primary syphilis were found (spiramycin - 5 cases; thiamphenicol - 8 cases; erythromycin stearate - 1 case); after 30 days, sixteen cases of early syphilis were found. With the administration of a single intramuscular injection of 3 megaunits penicillin, no cases of recent syphilis were found within 30 days following treatment.

* * *

CORRELATION OF CLINICAL RESULTS AND LABORATORY FINDINGS IN THE TREATMENT OF ACUTE GONORRHEA BY ORAL TETRACYCLINE (CZECHOSLOVAKIAN). V. Dbaly, M. Hejzlar, J Lochovsky, L. Hajkova, J. Weberschnike, V. Sedmidubsky, M. Safrankova, V. Simerkova, and H. Velachova–Kozni oddeleni Ustredni vojenske nemocnice, Praha, Czechoslovakia. CESK DERMATOL (Praha) 47:1-8, February 1972.

English summary: "The authors evaluate the treatment of 60 men suffering from acute gonorrheal urethritis with oral tetracycline (TC) as to the clinical and comprehensive laboratory results. The results indicate that TC is a suitable antibiotic in gonorrhea. Individual variations of the TC serum level after the same doses and different sensitivity of the gonococcal strain (MIC) are in favor of the following three-day cure: 3 days 4 x 0.5g TC per day. Due to proved cumulation of TC in the organism, the serum levels reach their peak on the third day. . .The disc (qualitative sensitivity test for TC is suited only for orientation as it detects only completely resistent strains (MIC above 5.0 mcg/ml) and, contrary to the disc sensitivity test to PNC, it is not a reliable guide for therapy. The paper provides evidence of the general thesis that sensitivity or resistence can be defined as the relationship between MIC assessed *in vitro* and the actual TC level in serum and thus also in tissues."

* * *

EXPERIENCE IN THE TREATMENT OF GONORRHOEA WITH PENICILLIN. F. Norton Brandao—Central Dispensary of Social Hygiene, Lisbon, Portugal. POSTGRAD MED J (London) 48:SUPPL 1:60-61, January 1972.

Summary and conclusions: In Lisbon, a rate of cure of 89 percent was achieved in male gonorrhea patients, by the parenteral administration on two consecutive days of a total dose of 8 mega U of aqueous procaine penicillin. This increased dosage reduced the failure rate from 18 to 11 percent as obtained with 4 mega U administered in the same way. However, this higher dosage seems to be very near the limits of practical administration. Hence, [there is] the need for further study and evaluation of other antibiotics which might be used in the therapy of gonorrhea.

* * *

THE CURRENT STATE OF GONORRHOEA THERAPY, PARTICULARLY WITH REGARD TO THE DECREASE OF PENICILLIN SENSITIVITY OF *Neisseria gonorrhoeae*. J. Meyer-Rohn—Clinic of Dermatology, University Hospital Eppendorf, Hamburg, Germany. POSTGRAD MED J (London) 48:SUPPL 1:58-60, January 1972.

In 1961 the penicillin sensitivity of Hamburg strains varied from 0.05 to 0.18 U/ml with a few exceptions upward and downward. In 1969 the average was approximately the same as in 1961. In 1970 the sensitivity decreased to 0.1-0.9 U/ml, and some strains had only a sensitivity of 1.5 or 2.0 U/ml. A search for the causes for the non-appearance of this development until 1969 revealed the main reason was that gonorrhea has been treated with higher doses of penicillin since 1962. At the present time, the dosage used in this area is 5 megaunits penicillin for uncomplicated gonorrhea of the male and 10 megaunits for the female.

" 'Penicillin-resistant gonorrhea' cases are frequently not based on precise analysis but only on the clinical picture. Author describes the different causes behind such resistance: (1) False diagnosis: A nongonococcal inflammation provoked by species of *Neisseria—flava, sicca, renalis,* the Mimae group; bacteria—*E. coli,* Staphylococci, Proteus, Candida; Trichomonas; Herpes simplex; urethritis not cuased by microorganisms. (2) Reinfections—with the possible combination with syphilis. (3) Autoinfections—by cotton pads, which are removed only to urinate. (4) Constitutional factors—defective absorption, etc. (5) Opposition to drugs. (6) Mixed infection with bacteria developing penicillinase: This may be *E. coli,* Proteus, *Alkaligenes faecalis,* but mostly Staphylococci producing penicillinase. Author reports dicloxacillin proved to be the best antibiotic for treatment of gonorrhea with mixed infection with penicillinase-producing Staphylococci." In conclusion, author mentions the various reliable antibiotics which may be used in case of penicillin allergy: the tetracyclines, chloramphenicol, rimactane, sulfonamide/trimethoprim.

* * *

THE DEVELOPMENT OF RESISTANCE OF GONOCOCCI TO ANTIBIOTICS. INVESTIGATIONS OF THE BEHAVIOR OF GONOCOCCI IN THE PRESENCE OF ANTIBIOTICS IN THE CENTRAL RHINELAND AREA (COBLENZ DISTRICT) IN THE YEARS 1966-1971. P. D. Dumpelmann and E. Heinke—Department of Dermatology, Central Military Hospital, Coblenz, Germany. POSTGRAD MED J (London) 48:SUPPL 1:56-58, January 1972.

Authors' summary: From present studies the following is to be noted with regard to penicillin: Penicillin G in single high doses must still be regarded as a very effective antigonorrhoeal drug. Factors against the use of penicillin are: (a) the ever increasing appearance of penicillin allergy; (b) mixed infections with penicillinase-developing organisms (e.g. *Staphylococcus aureus,* various strains of Streptococci); (c) infection with indifferent Neisseria; (d) loss of sensitivity during the last 10 years. As broad spectrum antibiotics which could be used with advantage at the present time, chloramphenicol and particularly thiamphenicol and doxycycline are available. The advantage of treatment with these antibiotics is the single oral dose method (prescribed by the doctor in charge of the case) with a demonstrably higher cure rate.

* * *

Selected Bibliography

Gonorrhea - Clinical

*Akers WA: Tender inguinal lymph nodes and gonococcal urethritis. MILIT MED, Washington 137:107-108, Mar 1972.

Chastikova AV: Patency of the uterine tubes after gonorrhea (RUSSIAN). AKUSH GINEKOL (MOSK), Moskva 47:73, Nov 1971

*Forstrom L, Mustakallio KK, Sivonen A, et al: Cutaneous lesions associated with benign gonococcaemia. ANN CLIN RES, Helsinki 4:49-54, Feb 1972.

Jiratko K, Zabransky F: Importance of menorrhagia and metrorrhagia in the diagnosis of female gonorrhea (CZECHOSLOVAKIAN). CESK GYNEKOL, Praha 37:51-53, Feb 1972.

Kohoutek M: Hysterosalpingographic picture after current therapy of gonorrhea (CZECHOSLOVAKIAN). CESK GYNEKOL, Praha 37:54-55, Feb 1972.

Martincik J, Zeman V: Post-gonorrheal gynecologic inflammations (CZECHOSLOVAKIAN). CESK GYNEKOL, Praha 37:53-54, Feb 1972.

*Owen RL, Hill JL: Rectal and pharyngeal gonorrhea in homosexual men. JAMA, Chicago 220:1315-1316, Jun 5, 1972.

Plintovic V, Scholtz J, Babic J: Gonorrhea–as we do not know it (SLOVAKIAN). CESK GYNEKOL, Praha 37:48-50, Feb 1972.

Pontuch A: Gonorrheic adnexitis (SLOVAKIAN). CESK GYNEKOL, Praha 37:42-47, Feb 1972.

Sayeed ZA, Bhaduri U, Howell E: Gonococcal meningitis. A review. JAMA, Chicago 219:1730-1731, Mar 27, 1972.

Skavdal KO, Kogstad O: Gonococcal arthritis (NORWEGIAN). TIDSSKR NOR LAEGEFOREN, Oslo 92:234-238, Feb 10, 1972.

Gonorrhea
Laboratory Diagnosis

Anonymous: Serological tests for gonorrhoea. (Letter to Editor. Review). BR MED J, London 1:584, Mar 4, 1972.

Barthelmes H, Muhler R, Droste KD: Demonstration of intraleukocytic gonococci using the direct immunofluorescence technic (GERMAN). DTSCH GESUNDHEITSW, Berlin 27:958-959, May 18, 1972.

Chesky SB: Gonococcal screening test for women. J AM OSTEOPATH ASSOC, Chicago 71:694-697, Apr 1972.

*Elmos T, Larsson PA (Letter to Editor): Survival of gonococci outside the body. BR MED J, London 2:403-404 May 13, 1972.

*Glynn AA, Watt PJ: Serological diagnosis in gonorrhoea. POSTGRAD MED J, London 48:SUPPL 1:23-24, Jan 1972.

*Kovalchik MT, Kraus SJ: *Neisseria gonorrhoeae:* Colonial morphology of rectal isolates. APPL MICROBIOL, Baltimore 23:986-989, May 1972.

Krell L, Elste G, Buske C: Diagnosis of gonorrhea with laboratory methods, including the specific immunofluorescence test (FAT). III. Specific demonstrations of *Neisseria gonorrhoeae* by immunofluorescence (GERMAN). DTSCH GESUNDHEITSW, Berlin 26:1804-1807, Sep 16, 1971.

Schmid EE, Sonnabend W, Jung M: Gonorrhea or non-specific infection–differentiation by direct immunofluorescence (GERMAN). SCHWEIZ MED WOCHENSCHR, Basel 101:1717-1724, Dec 4, 1971.

*Abstracted

*Schroeter AL, Reynolds G: The rectal culture as a test of cure of gonorrhea in the female. J INFECT DIS, Chicago 125:499-503, May 1972.

*Tosh[illegible] S, Kadis E, Diadio M: A comparative [illegible]aluation of Transgrow and Stuart's transport medium in the dianosis of gonococcal infection. CAN J PUBLIC HEALTH, Toronto 63:261-264, May-Jun 1972.

*Ward ME, Glynn AA: Human antibody response to lipoplysaccharides from *Neisseria gonorrhoeae*. J CLIN PATHOL, London 25:56-59, Jan 1972.

*Watt PJ, Ward ME, Glynn AA: A comparison of serological tests for the diagnosis of gonorrhoea. BR J VENER DIS, London 47:448-451, Dec 1971.

*Watt PJ, Glynn AA, Ward ME: Maintenance of virulent gonococci in laboratory culture. NATURE (NEW BIOL), London 236:186-187, Apr 12, 1972.

Wierer A, Resl V, Jr.: Auxiliary test *in vitro* and *in vivo* demonstration of gonorrhoea by means of papers impregnated with oxidase agent. ACTA UNIV CAROL (MED), Praha 17:47-50, 1971.

Gonorrhea - Therapy

Anonymous: Single-dose treatment of gonorrhoea. LANCET, London 1:885-886, Apr 22, 1972.

*Ackman CF, Reid EC, Homsy Y: The use of cephalexin in the treatment of gonorrhea. CAN MED ASSOC J, Toronto 106:350-351, Feb 19, 1972.

Bowszyc J, Dratwinski Z, Filipiuk J: Results of treatment of gonorrhea with oxytetracycline (POLISH). PRZEGL DERMATOL, Warszawa 59:73-77, Jan-Feb 1972.

*Brandao FN: Experience in the treatment of gonorrhoea with penicillin. POSTGRAD MED J, London 48:SUPPL 1:60-61, Jan 1972.

*Bro-Jorgensen A, Jensen T: Single-dose oral treatment of gonorrhea in men and women, using ampicillin alone and combined with probenecid. BR J VENER DIS, London 47:443-447, Dec 1971.

Chastikova AV, Kislova TA, Starostina ZD, et al: Sensitivity of gonococci to penicillin (RUSSIAN). UROL NEFROL, Moskva 36:52-54, Jul-Aug 1971.

Chastikova AV, Kislova TA, Starostina ZD: Sensitivity of gonococci to penicillin in contact persons with gonorrhea (RUSSIAN). ANTIBIOTIKI, Moskva 17:88-91, Jan 1972.

*Dbaly V, Hejzlar M, Lochovsky J, et al: Correlation of clinical results and laboratory findings in the treatment of acute gonorrhea by oral tetracycline (CZECHOSLOVAKIAN). CESK DERMATOL, Praha 47:1-8, Feb 1972.

*Dumpelmann PD, Heinke E: The development of resistance of gonococci to antibiotics. Investigations of the behavior of gonococci in the presence of antibiotics in the central Rhineland area (Coblenz District) in the years 1966-1971. POSTGRAD MED J, London 48:SUPPL 1:56-58, Jan 1972.

*Duncan WC, Holder WR, Roberts DP, et al: Treatment of gonorrhea with spectinomycin hydrochloride: Comparison with standard penicillin schedules. ANTIMICROB AGENTS CHEMOTHER, Washington, D.C. 1:210-214, Mar 1972.

Golosvker AM, Soina KK, Alimov KHA: Resistance of gonococci to penicillin (RUSSIAN). UROL NEFROL, Moskva 35:56-59, Jan-Feb 1970.

Gundersen T: Treatment of gonorrhea (NORWEGIAN). TIDSSKR NOR LAEGEFOREN, Oslo 92:231-234, Feb 10, 1972.

Gundersen T, Midtvedt T: Treatment of uncomplicated gonorrhea (NORWEGIAN). TIDSSKR NOR LAEGEFOREN, Oslo 92:196-197, Jan 30, 1972.

*Abstracted

Hallermans E: Study of the compound trimethoprime-sulfamethoxazole in venereology (FRENCH). PRAXIS, Bern 61:55-56, Jan 1972.

Handsfield HH: Treatment of gonorrhea. JAMA, Chicago 220:419-420, Apr 17, 1972.

Heinke E: The minute treatment. Results of the treatment of gonorrhoea with single doses of 2.5 g thiamphenicol. POSTGRAD MED J, London 48:SUPPL 1:54-55, Jan 1972.

Heise H, Schwager FW: Therapeutic problems in gonorrhea (GERMAN). DERMATOL MONATSSCHR, Leipzig 158:44-52, Jan 1972.

Hinman AR: Penicillin in the treatment of gonorrhea. JAMA, Chicago 220:589, Apr 24, 1972.

Malmborg AS, Molin L, Nystrom B: Rifampicin compared with penicillin in the treatment of gonorrhea. CHEMOTHERAPY, Basel 16:319-325, 1971.

Martini J, Halabi J, Bustamante B, et al: Treatment of acute male gonococcal urethritis with a single dose of spectinomycin (SPANISH). REV MED CHIL, Santiago 100:18-20, Jan 1972.

Martini J, Halabi J, Borgono JM: Treatment of acute male gonococcal urethritis with a single dose of doxycycline (SPANISH). REV MED CHIL, Santiago 100:21-24, Jan. 1972.

*Meyer-Rohn J: The current state of gonorrhoea therapy. Particularly with regard to the decrease of penicillin sensitivity of *Neisseria gonorrhoeae*. POSTGRAD MED J, London 48:SUPPL 1:58-60, Jan 1972.

Mirone A: Doxycycline in acute gonococcal urethritis (ITALIAN). G ITAL DERMATOL, Torino 46:526-529, Dec 1971.

Morton RS, Onn LY: A rational basis for the treatment of gonorrhoea. SINGAPORE MED J, Singapore 12:86-91, Apr 1971.

*Panduro J: Treatment of acute gonorrhoea with a single oral dose of rifampicin. BR J VENER DIS, London 47:440-442, Dec 1971.

*Pedersen AH, Wiesner PJ, Holmes KK, et al: Spectinomycin and penicillin G in the treatment of gonorrhea. A comparative evaluation. JAMA, Chicago 220:205-208, Apr 10, 1972.

*Petzoldt D: Single-session treatment of gonorrhea and its effect on *Treponema pallidum* (GERMAN). HAUTARZT, Berlin 22:523-527, Dec 1971.

*Petzoldt D: The single-dose treatment of gonorrhoea and its effect on *Treponema pallidum*. POSTGRAD MED J, London 48:SUPPL 1:61-65, Jan 1972.

Riggs M: Ampicillin-probenecid treatment of gonorrhea. JAMA, Chicago 220:420, Apr 17, 1972.

Schofield CB, Moffett M, Masterton G: Treatment of female blenorrhagia with sulfamethoxazole-trimethoprim (SPANISH). REV COLOMB OBSTET GINECOL, Bogota 22:347-351, Sep-Oct 1971.

*Schroeter AL, Lucas JB: Gonorrhea—diagnosis and treatment. OBSTET GYNECOL, New York. 39:274-285, Feb 1972.

*Siboulet A: Results of the minute treatment of gonorrhoea in 26,339 cases. POSTGRAD MED J, London 48:SUPPL 1:65-70, Jan 1972.

Silver PS, Darling WM: Antibiotic-resistant gonococci. BR MED J, London 1:691, Mar 11, 1972.

Sorbera J: Conorrhea: Its treatment with a single dose of rifampicin (SPANISH). PRENSA MED ARGENT, Buenos Aires 58:866-868, Jun 25, 1971.

*Abstracted

MINOR VENEREAL AND RELATED DISEASES

THE MANAGEMENT OF RESISTANT CHANCROID IN VIETNAM. Joel L. Marmar–227 Dickens Court, Cherry Hill, New Jersey 08034. J UROL (Baltimore) 107:807-808, May 1972.

Resistant chancroid has proved to be the most difficult to cure of all venereal diseases in Vietnam. At the 24th Evacuation Hospital, a total of 67 patients were treated for chancroid which was resistant to the combination of tetracycline and sulfisoxazole. These patients were given 500 mg kanamycin intramuscularly twice daily and the lesions were washed with providone-iodine surgical scrub. All patients responded to this regimen within 5 to 14 days, depending on the type of lesion. In several cases there were condyloma acuminata in addition to the chancroid ulcers. The warts responded to treatment with 25 percent podophyllin only after the chancroid lesions were healed. Because of the widespread use of tetracycline it was common to find Monilia on the glans penis. The Monilia responded to topical application of mycostatin.

* * *

CONTINUED EFFICACY OF STREPTOMYCIN IN THE TREATMENT OF GRANULOMA INGUINALE. Sardari Lal–Department of Skin and Venereal Diseases, Medical College, Rohtak, India. BR J VENER DIS (London) 47:454-455, December 1971.

Author's summary: 122 patients with granuloma inguinale were treated with streptomycin in the Jimper Hospital, Pondichery, India, between April 1966, and March 1970; 111 cases (91%) responded to the therapy while eleven (9%) showed resistance to the drug as evidenced by the persistence of Donovan bodies in tissue smears. The average amount of the drug required for successful treatment was 25 g. given as 1 g. intramuscularly twice daily. Eighteen of the 122 patients developed giddiness as a result of the therapy, but this soon ceased in seventeen. Of 111 successfully treated patients, 38 came for follow-up, and none of these showed evidence of later recurrence of the disease. It is thought that streptomycin may continue to have value as a routine therapy for the treatment of granuloma inguinale in areas with a high incidence of syphilis.

* * *

IMMUNOLOGICAL CLASSIFICATION OF TRIC AGENTS AND OF SOME RECENTLY ISOLATED LGV AGENTS BY THE MICRO-IMMUNOFLUORESCENCE TEST. J. D. Treharne, S. J. Davey, S. J. Gray and B. R. Jones–Institute of Ophthalmology, University of London, England. BR J VENER DIS (London) 48:18-25, February 1972.

Authors' summary: A total of 53 Subgroup A *Chlamydia* have been serotyped using the two-way cross titration indirect micro-immunofluorescence test (micro-IF) of Wang and Grayston (1970). All but one isolate were typed and the test clearly divided TRIC agents from LGV agents. TRIC agents were further sub-divided into six serological types, and LGV agents into three serotypes.

The ocular isolates from trachoma in trachoma-endemic areas generally serotyped as A, B, or C, apart from one from the Gambia, and one from Iran that typed as D. Ocular isolates from trachoma and other syndromes of TRIC agent infection of the eye in London, on the other hand, serotyped as D, E, or F. All genital TRIC agent isolates serotyped as D, E, or F, and three out of four rectal isolates serotyped

as E; the remaining isolate TRIC/GB/IOL-238/R appears to represent a new TRIC serotype. Of fifteen *Chlamydia* recently isolated from typical cases of LGV, one serotyped as LGV Type I, eleven as LGV Type II, and two as LGV Type III; the only one which failed to serotype was shown to be a Subgroup B *Chlamydia*. There was complete agreement between the results in this study, with those from other laboratories in all cases of isolates previously typed in the micro-IF test by Wang, or in the MTPT by Alexander, when considered in the light of Wang and Grayston's reclassification including three LGV serotypes.

The micro-IF typing test thus provides a practicable, reproducible, and highly incisive method of identifying TRIC agents and LGV agents, and of subdividing TRIC and LGV agents into serotypes that correlate with epidemiological features.

* * *

CELLULAR MEDIATED IMMUNITY TO THE LYMPHOGRANULOMA VENEREUM AGENT. H. Sayed, R. Nicks, and J. C. Wilt—Department of Medical Microbiology, Medical College, Winnipeg, Manitoba. CAN J MICROBIOL (Ottawa) 18:385-390, April 1972.

Authors' abstract: A possible correlation between the skin test and the presence of a cellular mediated immunity has been investigated using a lymphogranuloma venereum (LGV) antigen. The macrophage inhibition (MI) and macrophage spreading inhibition (MSI) tests were used to detect evidence of a cellular mediated immunity. A positive correlation was obtained between the diameter of the skin reactions and the in vitro inhibition of macrophages. Further experimentation demonstrated that the in vitro inhibition of macrophages was not mediated by cytophilic antibodies but mediated partially or completely by a macropnage inhibition factor. Electrofocusing experiments were carried out on a sonicated LGV agent to isolate and identify the antigens which induced the cellular mediated immunity; four fra tions with approximate pI (isoelectric point) values of 1.44, 1.38, 10.38, and 12.77 demonstrated a strong inhibition of macrophages in vitro. The antigen containing fractions had smaller amounts of nitrogen, higher ratios of non-reducing sugars per nitrogen content, and extremely high as well as low isoelectric point values as compared with fractions which exhibited no MSI reactions. The possibility of these antigens occurring as repeating units in the structure of the agent is discussed briefly.

* * *

TRICHOMONAL VAGINITIS TREATED WITH ONE DOSE OF METRONIDAZOLE. G. W. Csonka—Central Middlesex Hospital, Park Royal, London, England. BR J VENER DIS (London) 47:456-458, December 1971.

Author's summary: A single dose of 2 g. metronidazole (Flagyl) was compared with the standard 7-day course of 200 mg. three times a day in the treatment of trichomonal vaginitis. Of 36 patients treated with 2 g. and adequately observed, 82 percent were cured compared with 94 percent of 49 patients treated with 4.2 g. given over a period of 7 days. The difference is not statistically significant. The drug was well tolerated in both groups. Some factors possibly related to treatment failure are discussed. The results of this trial show the remarkable activity of metronidazole in trichomonal vaginitis and suggest that the single-dose treatment is a practical and acceptable alternative to the longer conventional course.

* * *

FLUNIDAZOLE—A NEW DRUG FOR SYSTEMIC TREATMENT OF UROGENITAL TRICHOMONIASIS. Armand J. Pereyra, Ronald M. Nelson, Darrell J. Ludders—104 W. "C" Street, Ontario, California 91762. AM J OBSTET GYNECOL (St. Louis) 112:963-966, April 1, 1972.

A new drug, flunidazole (MK-915), for treatment of *Trichomonas vaginalis* vaginitis, was used in a double-blind study on 100 women inmates at the California Institution for Women who were found to have *T. vaginalis* infestation. Fifty were treated with MK-915 (200 mg capsules orally three times daily for 5 days) with a cure rate of 90 percent. No side effects to the drug were observed. Lymphocyte and eiosinophil counts on the 14th day were slightly

lower in the flunidazole group as compared to the placebo group. The remainder of the blood and urine studies failed to show any significant differences. Three of the fifty women who were treated with the drug were pregnant at the time of administration. The lengths of gestation of the three were 6, 12, and 20 weeks. All were subsequently delivered of apparently normal infants who have had physical examinations at birth and periodically up to 6 and 12 months of age.

* * *

PITFALLS IN THE DIAGNOSIS AND TREATMENT OF GENITOURINARY TRACT TRICHOMONAS INFECTIONS IN MALES (FRENCH). Remi Giard–Clinque Urologique, Hospital Cochin, 75-Paris, France. ANN UROL (Paris) 6:65-69, February 1972.

English summary: "The epidemic expansion of trichomoniasis in males is decidedly on the increase, just as are all transmissible genitourinary diseases. The parasite is often easily detectable with May-Grundwald-Giemsa stain, but atypical forms can be seen. Ancient and newer treatments appeared to be curative in most cases, provided they were applied with perseverance. Pitfalls are numerous, however: (1) Unrecognized urethritis, attention being focused on an attenuated upper urinary tract infection. (2) Unrecognized trichomonas because microscopic examination: was not performed; was conducted using routine stains; seemed, wrongly, to be confirmed by culture with routine media. (3) Relapses, true or so-called ones: lack of serious control of the cure; frequent recontamination due to the number of different partners; to the difficulty of simultaneous treatment of all patients concerned, or to false statements, so often made when it comes to sexually transmissible diseases. (4) Pitfalls in the treatment: fragility of the urethral mucosa following cure, recontamination being thus made easier; psycho-emotional impact of the consequences the disease has on the patient's sexual, physical and affective life."

* * *

TRICHOMONIASIS IN NEWBORN INFANTS (POLISH). Z. Worwag–ul. M. Curie Skladowskiej 15/17, Lodz, Poland. GINEKOL POL (Lodz) 43:57-63, January 1971.

English summary: "Clinical and microscopical examinations were conducted in 210 newborns and their mothers with respect to *Trichomonas vaginalis* infestation. The presence of *Trichomonas vaginalis* in urine sediment was found in 44 female newborns out of 80 girls delivered by trichomonas infected mothers and in 20 male newborns out of 70 boys born from mothers with trichomoniasis. In all infestated newborns the trichomoniasis had a latent course."

* * *

HERPES SIMPLEX OF THE LOWER GENITAL TRACT IN THE FEMALE. W. A. McIndoe and M. J. Churchouse–National Women's Hospital, Auckland, New Zealand. AUST NZ J OBSTET GYNAECOL (Melbourne) 12:14-23, February 1972.

Authors' summary: An "epidemic" of vaginal herpes simplex in 18 gynecological patients in the 3-year period, January 1968 to February 1971, is presented. The basis of diagnosis has been in most cases an acute illness (13 of 18 patients), a positive cytology report (13 of 17 patients), and a positive herpes simplex virus culture report (13 of 15 patients). Early in the series the clinical picture was of a significant illness in which the cervix was primarily involved. The clinical picture then changed, the patients more commonly presenting with acute vulvitis and either marked dysuria or retention of urine. The implication of this infection to the fetus in the last weeks of pregnancy and its relationship to invasive carcinoma of the cervix is discussed.

* * *

MYCOPLASMA AND FERTILITY OF THE MALE (GERMAN). A. Hofstetter, H. J. Vogt, and R. Graf–Urologische Universitatsklinik, Thalkirchnerstrasse 48, D-8 Munchen 15, West Germany. HELV CHIR ACTA (Basel) 38:471-474, December 1971.

At the Urological Clinic of the University of Munich, from October 1970 to August 1971, mycoplasma was detected in up to 80 percent of the cases of abacterial infections of the urethra and prostate. Study was made of the ejaculate of 11 patients with mycoplasma-prostato-urethritis (Group A), 23 patients with bacterially conditioned inflammations of the genitals (Group B), and 35 men in whom there was no evidence of such disease. The ages of these men ranged between 21 and 36 years. The parameters for evaulation of the ejaculate are tabulated. In none of the 11 patients with mycoplasma infection was there found a normal spermiocytogram. In Group B (bacterial infections) only 2 normospermias were found. In Group C (normal men) 35 normosperimias and 5 pathospermias were found. In 12 of these normal men germs were detected, including mycoplasma in 6 and *E. coli* in 3. It is concluded that mycoplasma probably can cause alterations of the spermiocytogram, just like bacteria.

* * *

MYCOPLASMA IN NEWBORN INFANTS (RUSSIAN). M. A. Bashmakova, V. M. Soldatova, E. E. Badiuk. VOPR OKHR MATERIN DET (Moskva) 17:30-32, May 1972.

English summary: "*M. hominis* was isolated from 26 of 264 neonates examined, mainly from premature babies (the incidence of mycoplasma occurrence was four times greater in premature babies than in mature ones with a high weight at birth). Pyrexia during labor, spontaneous abortions and premature labor were more frequent in the anamnesis of mothers from whose children mycoplasma was isolated."

* * *

EFFECT OF VAGINITIS UPON BETA-GLUCURONIDASE ACTIVITY (POLISH). Wojciech Radecki, Jerzy Glebski, Zofia Kasprzak–ul. Polnocna 42, Lodz, Poland. GINEKOL POL (Lodz) 43:717-720, 1972.

English summary: "The activity of beta-glucuronidase was determined in the vaginal secretion of 68 women, where vaginitis of different etiology was diagnosed. In a group of 37 women with bacterial vaginitis the activity of this enzyme was within the range of 0 to 300 units per 100 ml, and a low activity (0 to 50 units) was demonstrated in 65 percent of these. In 31 cases of trichomonal vaginitis, in 71 percent activity of the enzyme was normal, while in about 30 percent it was above normal."

* * *

Selected Bibliography

Minor Venereal and Related Diseases

Anonymous: Metronidazole (flagyl) in trichomonas infections (NORWEGIAN). TIDSSKR NOR LAEGEFOREN, Oslo 92:33, Jan 10, 1972.

Amino E: Treatment of intractable vaginal trichomoniasis and candidiasis (JAPANESE). SANFUJINKA JISSAI, Tokyo 21:116-122, Feb 1972.

Amino E, Takada M, Tsukui T: Group discussion on clinical medicine: Treatment of refractory leukorrhea (JAPANESE). SANFUJINKA JISSAI, Tokyo 21:131-142, Feb 1972.

Andolsek L: Deflamon in the therapy of trichomoniasis (ITALIAN). MINERVA GINECOL, Torino 21:1270-1278, Oct 15, 1969.

*Bashmakova MA, Soldatova VM, Badiuk EE: Mycoplasma in newborn infants (RUSSIAN). VOPR OKHR MATERIN DET, Moskva 17:30-32, May 1972.

Benazet F, Guillaume L: Metronidazole and nitrimidazine. LANCET, London 1:597, Mar 11, 1972.

Brunnthaler K, Eberhartinger C: Current problems of "rare" venereal diseases (GERMAN). WIEN KLIN WOCHENSCHR, Vienna 84:153-156, Mar 10, 1972.

Calas E, Bacconnier J: Therapeutic value of eusaprim in dermato-venereology (FRENCH). MARS MED, Marseille 109:169-170, 1972.

Candiani GB, Bortolozzi G: Current status and prospects of therapy of vaginal trichomoniasis (ITALIAN). MINERVA GINECOL, Torino 21:1259-1269, Oct 15, 1969.

Cho N: Antibiotics therapy of vaginitis: with special reference to the effects of local administration (JAPANESE). SANFUJINKA JISSAI, Tokyo 21:102-110, Feb 1972.

*Csonka GW: Trichomonal vaginitis treated with one dose of metronidazole. BR J VENER DIS, London 47:456-458, Dec 1971.

Eimer H: Vaginal infections (GERMAN). MED MONATSSCHR, Stuttgart 26:69-72, Feb 1972.

Ene-Popescu C: Natamycin in dermatology (RUMANIAN). REV MED CHIR SOC MED NAT IASI, Iasi 76:159-164, Jan-Mar 1972.

*Giard R: Pitfalls in the diagnosis and treatment of genitourinary tract trichomonas infections in males (FRENCH). ANN UROL, Paris 6:65-69, Feb 1972.

Hofstetter A, Schmiedt E: Chronic inflammatory diseases of the female urogenital system due to mycoplasma (GERMAN). MUNCH MED WOCHENSCHR, Munich 114:230-237, Feb 11, 1972.

*Hofstetter A, Vogt HJ, Graf R: Mycoplasma and fertility of the male (GERMAN). HELV CHIR ACTA, Basel 38:471-474, Dec 1971.

Jones BR: Advances and prospects in the study of certain diseases due to infections by subgroup A chlamydia. BR J VENER DIS, London 48:13-17, Feb 1972.

Karag'ozov I: Trichomonas colpitis and colposcopic findings (BULGARIAN). AKUSH GINEKOL, Sofiia 8:71-74, 1969.

Keith L, England D, Bartizal F: Microbial flora of the external os of the premenopausal cervix. BR J VENER DIS, London 48:51-56, Feb 1972.

Kemmann B, Dahm K: Epidemiology and therapy of lymphogranuloma inguinale (GERMAN). THER GGW, Berlin 110:1448-1457, Oct 1971.

Korik LM: Metronidazole therapy of trichomonas infection (Russian). UROL NEFROL, Moskva 36:49-51, 1971.

*Abstracted

*Lal S: Continued efficacy of streptomycin in the treatment of granuloma inguinale. BR J VENER DIS, London 47:454-455, Dec 1971.

Lee YH, Bailey PE, McCormack WM: *T-mycoplasmas* from urine and vaginal specimens: Decreased rates of isolation and growth in the presence of thallium acetate. J INFECT DIS, Chicago 125:318-321, Mar 1972.

Linder E, Lepkova V, Horalek F: Microbiological findings in cervical and vaginal secretions in threatened pregnancies (GERMAN). ZENTRALBL GYNAEKOL, Leipzig 94:449-452, Apr 8, 1972.

McClean AN: Nitrimidazine (naxogin) compared with metronidazole (flagyl) in the treatment of *Trichomonas vaginitis*. BR J VENER DIS, London 48:69-70, Feb 1972.

*McIndoe WA, Churchouse MJ: Herpes simplex of the lower genital tract in the female. AUST NZ J OBSTET GYNAECOL, Melbourne 12:14-23, Feb 1972.

*Marmar JL: The management of resistant chancroid in Vietnam. J UROL, Baltimore 107:807-808, May 1972.

Moreira Filho R: Therapeutic evaluation of a new vaginal drug (PORTUGUESE). HOSPITAL, Rio de Janeiro 79:147-150, Jan 1971.

*Pereyra AJ, Nelson RM, Ludders DJ: Flunidazole–a new drug for systemic treatment of urogenital trichomoniasis. AM J OBSTET GYNECOL, St. Louis 112:963-966, Apr 1, 1972.

Perju A, Ciuca T: Treatment of urogenital trichomoniasis in female children with metronidazole (flagyl) (RUMANIAN). PEDIATRIA, Bucuresti 20:561-564, Nov-Dec 1971.

*Radecki W, Glebski J, Kasprzak Z: Effect of vaginitis upon beta-glucuronidase activity (POLISH). GINEKOL POL, Lodz 43:717-720, 1972.

Ranneberg KM, Wiegel O: Ulcus molle–a rare venereal disease (GERMAN). MED WELT, Stuttgart 23:43-44, Jan 8, 1972.

Rollier R, Rollier M: Bacterial, mucoticand protozoan urogenital infections. Diagnosis and chemotherapy. International symposium in Florence, May 1971. (FRENCH). MAROC MED, Casablanca 51:716-723, Dec 1971.

*Sayed H, Nicks R, Wilt JC: Cellular mediated immunity to the lymphogranuloma venereum agent. CAN J MICROBIOL, Ottawa 18:385-390, Apr 1972.

Schneider GT, Geary WL: Vaginitis in adolescent girls. CLIN OBSTET GYNECOL, New York 14:1057-1076, Dec 1971.

Sebek V: Trichomonas pyosalpinx (CZECHOSLOVAKIAN). CESK GYNEKOL, Praha 37:14-15, Feb 1972.

Summers JL, Ford ML: The Papanicolaou smear as a diagnostic tool in male trichomoniasis. J UROL, Baltimore 107:840-842, May 1972.

Tiktinskii OL, Novikov IF: Complex treatment of chronic non-specific and postgonorrheal prostatitis (RUSSIAN). VESTN DERMATOL VENEROL, Moskva 46:65-69, Jan 1972.

*Treharne JD, Davey SJ, Gray SJ, et al: Immunological classification of TRIC agents and of some recently isolated LGV agents by the micro-immunofluorescence test. BR J VENER DIS, London 48:18-25, Feb 1972.

Vasil'ev TV, Toporovskii LM, Shibanov VA: Trichonomal erosive-ulcerous lesions of the penis (RUSSIAN). SOV MED, Moskva 34:66-69, Jul 1971.

Woodcock KR; Treatment of *Trichomonas vaginitis* with a single oral dose of metronidazole. BR J VENER DIS, London 48:65-68, Feb 1972.

*Worwag Z: Trichomoniasis in newborn infants (POLISH). GINEKOL POL, Lodz 43:57-63, Jan 1971.

*Abstracted

RESEARCH AND EVALUATION

PRELIMINARY STUDIES ON THE DEVELOPMENT OF A GONOCOCCAL VACCINE. L. Greenberg, B. B. Diena, C. P. Kenny, and R. Znamirowski. Biologics Control Laboratories, Canadian Communicable Disease Center, Department of National Health and Welfare, Ottawa, Canada. BULL WHO (Geneve) 45: 531-535, 1971.

All gonorrhea strains used in this study were freshly isolated strains received on chocolate agar slants from the Ontario Public Health Laboratory. For vaccine production, *Neisseria* chemical defined medium (NCDM) (Kenny et al, 1967) was used. A total of 54 persons (17 female, 37 male) completed the study, none of whom had a history of gonorrhea or allergies. Each individual was given three intramuscular injections of 1.0 ml at intervals of three weeks. Blood samples of approximately 10 ml were taken immediately before the first injection and 10 days after the third injection. The sera were separated and coded and their identity was not disclosed until all the titrations had been completed.

The bentonite flocculation test (Wallace et al, 1970) and the tissue culture inhibition test (Diena et al, 1970) were carried out. There is no evidence to associate the bentonite flocculation antibody with protection. Of 43 with no pre-immunization titre, 31 (72%) developed flocculation antibodies following immunization and 12 (28%) showed no rise in these antibodies.

While there is no proof that the presence of inhibiting antibodies are synonymous with protection, author feels there is every reason to assume that they may play some part in an individual's resistance to the disease. Of 36 subjects with no pre-immunization titre, 32 (89%) developed inhibiting antibodies following immunization, all but three having reciprocal titres of 40 or higher. Four persons (11%) failed to develop any measurable antibodies; each of these, however, showed a good flocculating antibody response to vaccination. At the conclusion of the study, 47 (87%) had titres of inhibiting antibody of 40 or more.

* * *

STUDIES ON THE DEVELOPMENT OF A VAGINAL PREPARATION PROVIDING BOTH PROPHYLAXIS AGAINST VENEREAL DISEASE AND OTHER GENITAL INFECTIONS AND CONTRACEPTION. II. EFFECT *IN VITRO* OF VAGINAL CONTRACEPTIVE AND NON-CONTRACEPTIVE PREPARATIONS OF *TREPONEMA PALLIDUM* AND *NEISSERIA GONORRHOEAE*. Balwant Singh, John C. Cutler, and H.M.D. Utidjian-Graduate School of Public Health, University of Pittsburgh, Pennsylvania 15213. BR J VENER DIS (London) 48:57-64, February 1972.

Authors' summary: Twenty vaginal contraceptive preparations and seventeen other compounds, mostly vaginal antiseptics, were studied *in vitro* for their effect on the motility of virulent *T. pallidum* and were also tested for their bactericidal or bacteriostatic effects on *Neisseria gonorrhoeae*. Concentrations of several contraceptives and other preparations as low as 1 percent were effective in immobilizing spirochaetes in suspension within 1 to 1.5 minutes. Similarly, several products inhibited gonococcal growth as shown by time-exposure as well as plate-dilution techniques. These results *in vitro* are reported. Further studies *in vitro* and *in vivo* are in progress to find the preparations which show the greatest potential for topical use in V.D. prophylaxis and contraception.

* * *

BACTERIOCINS FROM *NEISSERIA GONORRHOEAE* AND THEIR POSSIBLE ROLE IN EPIDEMIOLOGICAL STUDIES. J. Flynn and M. G. McEntegart—Department of Medical Microbiology, The University of Sheffield, Sheffield, England. J CLIN PATHOL (London) 25:60-61, January 1972.

Authors' synopsis: Although no consistent results can be demonstrated when freshly isolated strains of *Neisseria gonorrhoeae* are tested for bacteriocin activity on chocolate blood agar, such activity can be demonstrated on GC base medium (Difco), enriched with a defined supplement. At the present time, using six indicator strains, 75% of isolates of *N. gonorrhoeae* show characteristic patterns of inhibition. These observations are encouraging and suggest that 'gonocin' typing may be possible.

* * *

ELECTRON MICROSCOPE STUDIES OF GONOCOCCI IN THE URETHRAL SECRETIONS OF PATIENTS WITH GONORRHOEA. N.M. Ovcinnikov and V.V. Delektorskij—Department of Microbiology of the Central Institute for Research on Skin and Venereal Diseases, Ministry of Health, USSR. BR J VENER DIS (London) 47:419-439, December 1971.

Authors' summary: The authors studied under the electron microscope ultrathin sections of gonococci in cultures and in pus from patients with fresh gonorrhoeal urethritis. The investigations showed that gonococci in pus and cultures differ somewhat in the nature of their outer wall. Extracellular gonococci are surrounded by a large number of circular structures of varying sizes and possessing a membrane. Larger structures have a nuclear vacuole with DNA strands and cytoplasm that has been crowded out towards the periphery. Similar but smaller structures are also found in gonococci inside the cells, in the phagosomes. The gonococci inside polymorphonuclear leucocytes are seen either in phagosomes with a well-marked membrane or in the cytoplasm with no marked membrane. The gonococci in the phagosomes of neutrophils sometimes look like structures resulting from decay-residual bodies. The authors suggest that in polymorphonuclear leucocytes only weakened or dead gonococci are destroyed and that the living ones continue to multiply. The rounded structures in the pus around the gonoccoccus are formed from the cell wall and the process by which they are formed is apparently analogous to budding in the L-forms.

The electron micrographs presented prove the existence of L-forms of gonococci in pus obtained direct from patients and thus resolve doubts whether L-forms exist in material from patients. The authors emphasize that, without taking into account changes in the shape of gonococci, successful control of gonorrhoea is impossible; it is urged that the introduction of a culture method be made obligatory for the diagnosis of gonorrhoea.

* * *

REACTIONS ASSOCIATED WITH AMPICILLIN THERAPY. C. Warren Bierman, William E. Pierson, Stanley J. Zeitz, Leonard S. Hoffman, and Paul P. VanArsdel—Department of Medicine, BB-509, University of Washington School of Medicine, Seattle, Washington 98105. JAMA (Chicago) 220:1098-1100, May 22, 1972.

Authors' abstract: Fifty patients who had had adverse reactions to therapy with ampicillin trihydrate were studied immunologically to determine the role of allergy in these reactions. Thirty-four of the 50 patients had only a maculopapular rash. They all had negative skin test reactions and had no reaction to readministration of ampicillin. Sixteen patients had urticarial reactions, and of these, six had positive skin test results. Ten tolerated readministration, two were not challenged because of positive immediate skin test reactions, and urticaria developed in four-three of whom had delayed skin reactions. We conclude that the common maculopapular rash related to ampicillin is not an allergic reaction. Furthermore, both immediate and delayed skin reactions should be tested for in patients with urticaria to rule out ampicillin allergy.

* * *

EXCESS OF AMPICILLIN RASHES ASSOCIATED WITH ALLOPURINOL OR HYPERURICEMIA. Boston Collaborative Drug Surveillance Program—Boston University Medical Center, Boston, Massachusetts. N ENGL J MED (Boston) 286:505-507, March 9, 1972.

Report Abstract: In a comprehensive drug surveillance system, drug rashes were observed among 22.4 percent of 67 hospitalized medical patients receiving allopurinol and ampicillin concomitantly, and among 7.5 percent of 1257 patients receiving only ampicillin. The relative risk for allopurinol recipients, as compared with nonrecipients, was 3.0, with 95 percent confidence limits of 1.8 and 4.6. Potentiation of ampicillin rashes by allupurinol (or hyperuricemia) seems a likely explanation, since only 2.1 percent of 283 patients receiving allopurinol without ampicillin experienced drug rashes—a rate comparable with that observed among ampicillin nonrecipients in general. Data on uric acid levels were not available, and it is not clear whether the potentiation should be ascribed to allopurinol or to hyperuricemia.

* * *

THE RELATIONSHIP BETWEEN INFECTIOUS MONONUCLEOSIS AND AMPICILLIN SENSITIVITY. Roy A. Davis—Medical Director, Health Center, Ferris State College, Big Rapids, Michigan 49307. J AM COLL HEALTH ASSOC (Miami) 20:291-292, April 1972.

Frequent delayed skin reactions in patients with mononucleosis aroused suspicions and led to a study of cases seen by the author between 1968 and July 1970. To discover whether or not the reactions were related to medications, during the period of the study every record with a confirmed diagnosis of mononucleosis was checked. Of these 205 patients, 141 had received some kind of antibiotic. Twenty-one reactions occurred, all in the antibiotic-treated group.

Charts of 474 patients without mononucleosis, but who had received antibiotics during the study period, were studied to determine the expected rate of skin reactions to antibiotics. Of 271 patients who received penicillin, skin reactions were reported in 1.1 percent; of 203 cases receiving other antibiotics, only 0.5 percent showed a reaction. In 141 mononucleosis cases, 35 percent had reactions to penicillin and 1.2 percent reacted to other antibiotics.

The nature of the secondary infections in mononucleosis were the type indicated by ampicillin treatment rather than ordinary penicillin. A further check of the 56 cases of penicillin reactions showed that 42.2 percent had received ampicillin, and 9.1 percent were treated with procaine penicillin. To be sure that these were not simple ampicillin reactions, a random selection was made of 271 cases treated with ampicillin in which no mononucleosis was known or thought to exist. Comparison of this group with the ampicillin-treated mononucleosis patients showed skin reactions in 42 percent in the mononucleosis group and 1.1 percent in those without mononucleosis.

* * *

CROSS-ALLERGY TO PENICILLIN, SEMISYNTHETIC PENICILLINS AND CEPHALOSPORINS. OBSERVATIONS ON SUBJECTS ALLERGIC TO PENICILLIN (ITALIAN). G. Patriarca, A. Venuti, W. Bonini—Instituto di Patologia Speciale Medica dell'Universita Cattolica dell S. Cuore, Roma, Italy. FOLIA ALLERGOL (Rome) 18:389-401, September-October 1971.

Authors discuss the analogy of structure between penicillins, semisynthetic penicillins, and cephalosporins, and the problem of cross-allergy between penicillins and the other two antibiotic categories. An investigation was conducted on 37 subjects allergic to penicillin (of whom five were also clinically allergic to ampicillin), searching for a possible immunological movement towards ampicillin (for the semisynthetic penicillin) and towards cephalothin (for the cephalosporin). For this purpose the authors used the cuti-reactions, the passive transport according to Prausnitz and Kustner, and the test for passive anaphylaxis on the guinea pig according to Ovary. Out of 37 patients with a history of penicillin allergy, five were definitely and 25 were potentially allergic to ampicillin (81%); 22 (59.4%) were potentially

allergic to cephalothin. Consequently, authors advise against the use of these two antibiotics in subjects found allergic to penicillin.

* * *

ON THE IMMUNOLOGICAL PROPERTIES OF PENICILLINS. S. Shaltiel, Rachel Mizrahi, and M. Sela—Department of Chemical Immunology, The Weizmann Institute of Science, Rehovot, Israel. PROC R SOC LOND (BIOL) (London) 179:411-432, December 31, 1971.

Authors' summary: Penicilloylated proteins which may be found as impurities in 6-aminopenicillanic acid can be exhaustively digested by pronase to yield amino acids and small peptides. This degradation converts the potent polyvalent antigens into a mixture of mostly monovalent haptens which are much less immunogenic and less capable of eliciting immune reactions in sensitized animals. In order to avoid the contamination of 6-aminopenicillanic acid with a proteolytic enzyme, pronase was converted into a water insoluble form by coupling it with bromoacetyl cellulose. This insoluble derivative of pronase retains its activity and broad specificity. It can be readily removed from the medium upon completion of the impurity degradation, to be used repeatedly in a continuous process. The immunological manifestations associated with penicillins are not completely abolished by removal or degradation of protein impurities. Another important cause for these manifestations appears to be polymeric materials which are formed in penicillins. Such polymeric materials were isolated from ampicillin and shown to be capable of binding spontaneously to proteins (e.g. bovine serum albumin). The protein-polymer conjugates, which are formed under physiological conditions (pH 7.4, 37°C), were found to be immunogenic and to provoke the formation of polymer-specific antibodies.

* * *

C-REACTIVE PROTEIN (CRP) IN THE SERUM OF PATIENTS WITH EARLY ACQUIRED SYPHILIS (POLISH). Mieczyslaw Gibowski—Klinika Dermatologiczna AM, ul. Przybyszewskiego 49, Poznan, Poland. PRZEGL DERMATOL (Warszawa) 59:23-27, January-February 1972.

English summary: "Fifty nine sera of patients with acquired early syphilis were tested with 'Latex CRPA.' The tests were performed three times, i.e. before treatment, in the mid-course of it, and after it. In early acquired syphilis the test for the presence of CRP is as a rule positive (93,3% of untreated cases). Positive results of the test may be demonstrated even in primary seronegative syphilis. The highest CRP titer was observed in primary seropositive syphilis, then in early secondary syphilis, and the lowest one in recent latent syphilis. Under the influence of treatment the CRP serum content decreased rapidly. After treatment the C-reactive protein was not detected in 66 percent of the sera."

* * *

ANTIGENIC STRUCTURE OF TREPONEMA: DEMONSTRATION OF NEW LIPID HAPTEN IN *Treponema reiteri*. STUDY OF HUMAN SERUMS CONTAINING ANTIBODIES AGAINST THIS HAPTEN (FRENCH). P. Dupouey—Laboratoire de Biochimie des Antigenes, Institut Pasteur, Paris, France. ANN INST PASTEUR (Paris) 122:283-295, February 1972.

English summary: "A new glycolipidic hapten has been shown in *T. reiteri* and *T. kazan V*. The haptenic feature is probably due to the presence of D-mannose or D-glucose in the molecule. The position of the alcohol group at position 5 and for transhydroxyl groups at position 3-4 on the pyranose ring plays an important part in this specificity. There was no, or little, cross-reactivity between this new hapten and the previously recognized lipidic haptens in treponema (galactoglyceride, cardiolipide). This aspect is under further study.

"Some human sera, obtained from individuals free from treponematosis, contained antibodies which reacted with this hapten. These antibodies gave 'false positive reactions' in complement fixations for the serodiagnosis of syphilis (Kolmer-Reiter). The origin of these anti-hapten antibodies in man remains unknown."

* * *

WORKSHOP ON THE BIOLOGY OF THE TREPONEMES. Richard M. Krause—The Rockefeller University, New York, New York. J INFECT DIS (Chicago) 125:332-336, March 1972.

A workshop on the biology and immunology of the treponemes, sponsored by the National Institute of Allergy and Infectious Diseases, was held on October 15, 1971, in Bethesda, Maryland. Invited participants discussed current problems on the biology of the treponema and other spirochetes, with particular attention focused on *Treponema pallidum* and syphilis. Discussion centered on clinical considerations, epidemiology, treatment, biology of the spirochetes, immunology, pathogenesis, animal models, and artificial immunization. The workshop concluded with a discussion of the broad research objectives that must be achieved if syphilis is to be controlled: (1) Much more must be known about the natural history of syphilis as it exists today. Information about the best way to treat syphilis, particularly the later stages of the disease, is still inadequate. There are only a few comparative studies, for example, on the effectiveness of erythromycin and tetracycline. (2) Attempts to grow *T. pallidum* in vitro should have the highest priority. All preconceived notions should be questioned, beginning with the traditional one, i.e., that the spirochete is a strict anaerobe. (3) Research on *T. pallidum* need not wait until in vitro cultivation is successful. Much can be done with *T. pallidum* grown in tissues of experimental animals. (4) While much has been learned about the pathogenesis of syphilis by the experimental infection of rabbits with *T. pallidum*, there is merit in re-exploring the bacteriology, immunology, and pathogenesis of the natural venereal infection of rabbits caused by *T. cuniculi*. (5) Recognizing the potential usefulness of an effective and safe vaccine, and recognizing that, in the future, syphilis may spread widely despite therapy and public health measures, there was general agreement that efforts must continue to explore the feasibility of a live attenuated, or dead treponemal vaccine, or a vaccine composed of antigenic components of treponemes.

* * *

THE HISTOPATHOLOGY OF EXPERIMENTAL PINTA IN THE CHIMPANZEE. Francis W. Chandler, Jr., Arnold F. Kaufmann, and U.S.G. Kuhn III—Venereal Disease Branch, Center for Disease Control, Atlanta, Georgia 30333. J INVEST DERMATOL (Baltimore) 58:103-108, March 1972.

Authors' abstract: Pinta lesions in various stages of development from experimentally infected chimpanzees were subjected to histopathologic examination. Both early lesions and lesions of long duration were strikingly similar to the corresponding lesions in man. However, observed differences in the chimpanzee lesions included the demonstration of *Treponema carateum* in the upper dermis, a location in which they are rarely found in man. The endstage of chimpanzee pinta was hyperpigmentation or normal pigmentation of the affected area as opposed to irreversible hypopigmentation more commonly seen in man.

* * *

TREPONEME-LIKE FORMS IN CHIMPANZEE AQUEOUS HUMOR AND CEREBROSPINAL FLUID. Frederick J. Elsas, Patricia M. Cox, Janice C. Bullard, U.S. Grant Kuhn III, and Francis W. Chandler—Venereal Disease Research Laboratory, Center for Disease Control, Atlanta, Georgia 30333. ARCH OPHTHALMOL (Chicago) 87:333-336, March 1972.

Authors' abstract: Two hundred and ninety-four specimens of aqueous humor and cerebrospinal fluid from 34 chimpanzees were examined for treponeme-like forms with a direct fluorescent antibody technique. One such form was found in 44 specimens from eight animals having a reactive fluorescent treponemal antibody-absorption (FTA-ABS) test prior to experimental infection, one in 170 specimens from six animals having untreated experimental syphilis of two to three years' duration, and one in 14 specimens of aqueous humor from six animals having pinta of one to two years' duration. None was seen in 49 specimens from animals with non-reactive FTA-ABS tests prior to experimental infection, or in 18 specimens from eight animals examined three to four years following penicillin treatment for experimental syphilis.

Seven percent of the fluids examined contained "suspicious" forms which could not definitely be classified as treponemes.

* * *

IMMUNOGLOBULIN SYNTHESIS IN THE HUMAN FETUS (GERMAN). Erich Rossipal–Universitats-Kinderklinik, A-8036 Graz, Auenbruggerplatz, Osterreich, Germany. Z KINDERHEILKD (Berlin) 112:177-186, 1972.

English abstract: "The ability of the human fetus to synthesize IgM and IgA was studied in 7 cases with intrauterine infections. The findings indicate that the ability of the fetus at the end of gestation to form IgM is comparable with that of an infant several months old, whereas IgA can be produced by the fetus only in small amounts. Our results suggest that the maturation of the IgA producing system starts in the second week of life. From the third month of life onwards an infant seems capable of producing with, by appropriate antigen stimulation, the same amount of IgA as an infant in the second half of the first year."

* * *

THE INFLUENCE OF LOCAL INFECTION ON IMMUNOGLOBULIN FORMATION IN THE HUMAN ENDOCERVIX. Elisebeth J. Chipperfield and B. A. Evans–Department of Venereology, James Pringle House, The Middlesex Hospital, London WIN 8AA, England. CLIN EXP IMMUNOL (Oxford) 11:219-223, June 1972.

Authors' summary: The formation of immunoglobulins in the lamina propria of the endocervix was studied in relation to specific acute local infection. Plasma cells containing IgA, IgG and IgM were identified immunohistochemically by the direct fluorescent antibody method in specimens obtained by needle biopsy. Infection by *Neisseria gonorrhoeae*, *Trichomonas vaginalis* or *Candida albicans* was associated with an increase in the numbers of fluorescing plasma cells in all three classes, but predominantly IgA; plasma cells of the IgM class were more prominent in trichomoniasis than in the other two infections. Sexual contacts of patients with gonorrhoea, in whom the organism could not be demonstrated, showed an identical response to bacteriologically confirmed cases, but contacts of patients with nonspecific urethritis were indistinguishable from normals.

* * *

Selected Bibliography

Research and Evaluation

Anonymous: Skin reactions to ampicillin. BR MED J, London 1:195, Jan 22, 1972.

Abramson IJ, Smibert RM: Inhibition of growth of treponemes by antimicrobial agents. BR J VENER DIS, London 47:407-412, Dec 1971.

Abramson IJ, Smibert RM: Bactericidal activity of antimicrobial agents for treponemes. BR J VENER DIS, London 47:413-418, Dec 1971.

*Bierman CW, Pierson WE, Zeitz SJ, et al: Reactions associated with ampicillin therapy. JAMA, Chicago 220:1098-1100, May 22, 1972.

*Boston Collaborative Drug Surveillance Program. Excess of ampicillin rashes associated with allopurinol or hyperuricemia. N ENGL J MED, Boston 286:505-507, Mar 9, 1972.

*Chandler FW Jr, Kaufmann AF, Kuhn US 3d: The histopathology of experimental pinta in the chimpanzee. J INVEST DERMATOL, Baltimore 58:103-108, Mar 1972.

*Chipperfield EJ, Evans BA: The influence of local infection on immunoglobulin formation in the human endocervix. CLIN EXP IMMUNOL, Oxford 11:219-223, Jun 1972.

Collart P, Pechere JC, Franceschini P: Persisting virulence of *T. pallidum* after incubation with penicillin in Nelson-Mayer medium. BR J VENER DIS, London 48:29-31, Feb 1972.

Collart P, Franceschini P, Durel P: Experimental rabbit syphilis. BR J VENER DIS, London 47:389-400, Dec 1971.

*Davis RA: The relationship between infectious mononucleosis and ampicillin sensitivity. J AM COLL HEALTH ASSOC, Miami 20:291-292, Apr 1972.

*Dupouey P: Antigenic structure of treponema: Demonstration of new lipid hapten in *Treponema reiteri*. Study of human serums containing antibodies against this hapten (FRENCH). ANN INST PASTEUR, Paris 122:283-295, Feb 1972.

*Elsas FJ, Cox PM, Bullard JC, et al: Treponeme-like forms in chimpanzee aqueous humor and cerebrospinal fluid. ARCH OPHTHALMOL, Chicago 87:333-336, Mar 1972.

Felsenfeld O, Wolf RH: Serological reactions with treponemal antigens in nonhuman primates and the natural history of treponematosis in man. FOLIA PRIMATOL, Basel 16:294-305, 1971.

*Flynn J, McEntegart MG: Bacteriocins from *Neisseria gonorrhoeae* and their possible role in epidemiological studies. J CLIN PATHOL, London 25:60-61, Jan 1972.

*Gibowski M: C-reactive protein (CRP) in the serum of patients with early acquired syphilis (POLISH). PRZEGL DERMATOL Warszawa 59:23-27, Jan-Feb 1972.

Girard JP: Allergic reactions to antibiotics. HELV MED ACTA, Basel 36:3-22, Dec 1971.

*Greenberg L, Diena BB, Kenny CP, et al: Preliminary studies on the development of a gonococcal vaccine. BULL WHO, Geneve 45:531-535, 1971.

Harris JR, Mahony JD, McCann JS (Letter to Editor). Skin reactions to ampicillin. BR MED J, London 1:687-688, Mar 11, 1972.

Ivady G, Baranyai P: Clinico-pharmacological test of a new penicillinase-stable penicillin, pyrazocillin, F 75 (GERMAN). ACTA PAEDIATR ACAD SCI HUNG, Budapest 12:167-171, 1971.

Kaganov SIU, Sel'Tsova VA: Use of penicillin in children with bronchial asthma (RUSSIAN). ANTIBIOTIKI, Moskva 16:1099-1104, Dec 1971.

*Abstracted

Kopske J, Wittig H, Krell L: Demonstration of heterogeneous or homogeneous antibodies using specific serologic syphilis diagnostics (GERMAN). DERMATOL MONATSSCHR, Leipzig 157:709-716, Oct 1971.

*Krause RM: Workshop on the biology of the treponemes. J INFECT DIS, Chicago 125:332-336, Mar 1972.

Krell L, Elste G: Serum or saliva, dried on paper strips–a simple method of transmission of the FTA-ABS test. I. Experiments using dried serum on paper strips. (GERMAN). DERMATOL MONATSSCHR, Leipzig 157:586-588, Aug 1971.

Malgras J, Basset A, Baylet R: On strains of treponema isolated from a focus of endemic syphilis in Senegal (FRENCH). C R SOC BIOL, Paris 163:977-978, 1969.

Munteanu M, Marculescu D, Popescu E: Serum protein changes in early syphilis (GERMAN). DERMATOL MONATSSCHR, Leipzig 157:579-585, Aug 1971.

*Ovcinnikov NM, Delektorskij VV: Electron microscope studies of gonococci in the urethral secretions of patients with gonorrhoea. BR J VENER DIS, London 47:419-439, Dec 1971.

*Patriarca G, Venuti A, Bonini W: Cross-allergy to penicillin, semisynthetic penicillins and cephalosporins. Observations on subjects allergic to penicillin (ITALIAN). FOLIA ALLERGOL, Rome 18:389-401, Sep-Oct 1971.

Pekowski M, Szyszymar B: Growth of *Neisseria gonorrhoeae* in a solid, pure egg medium (POLISH). PRZEGL DERMATOL, Warszawa 59:29-31, Jan-Feb 1972.

Potter JP: Skin reactions to ampicillin (Letter to Editor). BR MED J, London 1:749, Mar 18, 1972.

Ramirez O: Various skin and venereal diseases treated with triple-tetracycline (report of 25 cases) (SPANISH). ACTAS DERMO-SIFILIOGR, Madrid 62:27-36, Jan-Feb 1971.

*Rossipal E: Immunoglobulin synthesis in the human fetus (GERMAN). Z KINDER-HEILKD, Berlin 112:177-186, 1972.

Seropian E, Beloiu D: A syndrome of the serum sickness type due to penicillin (RUMANIAN). MED INTERNA, Bucuresti 23:1503-1506, Dec 1971.

Serova LI, Syromiatnikova TG, Tomashchik AD: Identification of bicillin-5 in muscle tissue (RUSSIAN). SUD MED EKSPERT, Moskva 15:21-23, Apr-Jun 1972.

*Shaltiel S, Mizrahi R, Sela M: On the immunological properties of penicillins. PROC R SOC LOND (BIOL), London 179:411-432, Dec 31, 1971.

*Singh B, Cutler JC, Utidjian HM: Studies on the development of a vaginal preparation providing both prophylaxis against venereal disease and other genital infections and contraception. II. Effect *in vitro* of vaginal contraceptive and non-contraceptive preparations of *Treponema pallidum* and *Neisseria gonorrhoeae*. BR J VENER DIS, London 48:57-64, Feb 1972.

Smith HW: The effect of the use of antibacterial drugs on the emergence of drug-resistant bacteria in animals. ADV VET SCI COMP MED, New York 15:67-100, 1971.

Vakulenko EF: Late allergic reaction to the administration of penicillin (RUSSIAN). VRACH DELO, Kiev 7:128, Apr 1971.

Walther H: Therapy of skin and venereal diseases. Review of the literature 1969 (GERMAN). DTSCH MED J, Berlin 21:870-876, PASSIM, Jun 20, 1970.

Werner HP, Kraft D, Stemberger H: Hypersensitivity reactions due to penicillin and cephalosporin antibiotics (GERMAN). HAUTARZT, Berlin 23:207-209, May 1972.

*Abstracted

INTERNATIONAL HEALTH FOUNDATION

1, place du Port
1204 GENÈVE
Suisse
Tél.: (022) 24. 31. 20.
Télex: 27178

9th March 1973

INTERNATIONAL HEALTH FOUNDATION AWARD - 1973

An award of 5,000 Swiss Francs will be presented to the author of the best entry submitted to the International Health Foundation in Geneva on

"The control of venereal disease".

An additional prize of 2,000 Swiss Francs is available for the best entry by an author under 35 years of age.

The closing date for entries is 1st September 1973, and further details regarding the panel of judges, technical requirements and so on may be obtained from the International Health Foundation, 1 place du Port, 1204 Geneva, Switzerland.

Professor Dr. D. de Wied
Chairman of the Board of Trustees

P.A. van Keep, M.D.
Director-General

PUBLIC HEALTH METHODS

A MASS SCREENING PROGRAM FOR THE DETECTION OF GONORRHEA. Jack Zackler, Hyman Orbach, Olga Brolnitsky, Murray C. Brown–Chicago Civic Center, Room 218, Chicago, Illinois 60602. AM J OBSTET GYNECOL (St. Louis) 112:772-776, March 15, 1972.

Authors' abstract: A 2½ year gonorrhea screening program in Chicago showed 7.5 percent of women tested to be positive for *Neisseria gonorrhoeae* organisms with a single cervical culture. Young patients, unmarried patients, and black patients had the highest attack rates. Over 98 percent of those with positive cultures were treated, and this program has probably contributed to a decline in reported gonorrhea morbidity in the first 6 months of 1971. In another group of 4,816 women seen at a venereal disease clinic, 24.4 percent were positive at the cervix, rectum, or both. The addition of rectal tests to cervical tests is productive of many cases that would otherwise be missed. Three million units procaine penicillin G with 2 percent aluminum monostearate (PAM) intramuscularly is inadequate treatment for gonorrhea in the woman.

* * *

A NEW APPROACH FOR GONORRHEA EPIDEMIOLOGY. Joseph H. Blount–Venereal Disease Branch, State and Community Services Division, Center for Disease Control, Atlanta, Georgia 30333. AM J PUBLIC HEALTH (New York) 62:710-712, May 1972.

Author's summary: The results of interviewing some 7,353 male and 2,273 female patients diagnosed with gonorrhea were analyzed to determine the relative effectiveness of interviewing in identifying sex contacts and providing treatment for infected persons in the gonorrhea reservoir. The results were analyzed in terms of interviewing infected patients classified by the initial reason for examination.

Among the patient characteristics considered, the most effective category for discovering untreated cases is to interview male volunteers. The cost is $6.16 per new case brought to treatment. The second most productive category is to interview females detected through health department family planning clinics. However, the relative cost per new case discovered from interviewing family planning clinic females is 14 percent greater than the cost per case for interviewing male volunteers. The cost per new case discovered from interviewing females detected through the contact tracing procedure is more than double the cost per new case from interviewing male volunteers. The relative cost per untreated case discovered by interviewing patients classified by initial reason for coming to examination provides a means for establishing priorities and directing available interviewing resources toward those patients who will produce a maximum yield.

Further study is needed to determine if other patient characteristics including age, occupation, and education are factors in determining the relative effectiveness of interviewing gonorrhea patients in discovering untreated cases.

* * *

GONORRHEA IN ADOLESCENT GIRLS IN A CLOSED POPULATION. PREVALENCE, DIAGNOSIS, AND TREATMENT. Hania W. Ris and Ruth W. Dodge–Wisconsin School for Girls, P.O. Box 178, Oregon, Wisconsin 53565. AM J DIS CHILD (Chicago) 123:185-189, March 1972.

Authors' abstract: In a closed population of 1,899 girls, vaginal and cervical smears and cultures were evaluated for diagnosis of gonorrheal infection. Two hundred twenty six cases (11.8%) were diagnosed on primary admission or readmission. Positive diagnoses were made on 213 (94.2%) by vaginal specimen; cervical specimens taken later revealed an additional 13

(5.8%). Of 268 positive specimens, 177 were positive by the culture method and negative by the gram-stained smear. From 1966 to 1968, three of 121 patients (2.3%) treated with five daily injections of aqueous penicillin G procaine, 1.2 million units, were treatment failures. From 1968 to 1969, four of 62 patients (6.4%) treated with 2.7 million units of a mixture of procaine and sodium forms of penicillin G in aqueous solution were treatment failures. All treatment failures responded either to a different penicillin regimen or to tetracycline.

* * *

PILOT STUDIES FOR THE CONTROL OF GONORRHEA (SPANISH). Arthur E. Callin—Center for Disease Control, Venereal Disease Branch, Atlanta, Georgia. BOL OF SANIT PANAM (Washington) 72:44-49, January-June 1972.

English summary: "Very limited funds for the study of gonorrhea control procedures became available in Fiscal Year 1968. After assessing what information would be most critical to begin planning for control of this disease, it was decided that these monies should be programmed to learn the extent of undetected gonorrhea among females and to determine the feasibility of screening females by culture. Contracts were negotiated with local health departments to develop programs within their jurisdictions. During the first year, approximately 144,000 females were screened. The positive rate from all screening facilities reached 10 percent, and excluding VD clinics the total was 5.9 percent. At the date of this presentation 500,000 females were screened, and the overall positive rate remained consistent at about 6 percent, exculding VD clinics.

"With regard to casefinding yield, it has been learned that although female patients name as many sexual contacts as men, fewer contacts are placed under treatment per patient interviewed. This generally confirms the belief that interviewing males is the more productive approach. The contract studies conducted in Fiscal Years 1968 through 1970 were a mixture of special screening, epidemiologic and clinical investigations. In July 1970, however, a shift was made to what are termed 'impact studies.' These are programs employing all current productive techniques in a coordinated and concentrated manner in an effort to reduce incidence of gonorrhea. The Center for Disease Control provided technical assistance to support the information campaigns and the private physician visitation programs. During recent revisiting of physicians, representatives from the smaller areas were temporarily assigned to the larger cities to assist in the program. Morbidity data is being collected on a quarterly basis from each area by reporting source, sex, and reason for examination. It is expected that next year this data will be available so as to be able to discuss the expansion of impact programs into more and larger cities."

* * *

PROBLEMS IN THE TREATMENT OF VENEREAL DISEASE: BACTERIAL RESISTANCE: ALLERGY. A. E. Wilkinson—Venereal Diseases Reference Laboratory (PHLS), The London Hospital, London, England. J R COLL PHYSICIANS LOND (Dartmouth) 6:175-180, January 1972.

Author's summary: Penicillin is still the treatment of choice for syphilis and gonorrhoea. There is no evidence to suggest changes in the sensitivity of *T. pallidum* to penicillin, but strains of gonococci with diminished sensitivity have become prevalent in this country (England) and elsewhere since 1957. This has necessitated changes in treatment methods and a search for alternative antibiotics. The wide use of penicillin has resulted in allergic reactions in some patients but these are not a serious problem.

* * *

VENEREAL DISEASE EDUCATION IN THE JUNIOR COLLEGE: YES OR NO. Pearl G. Waterhouse—Dean of Women, Leicester Junior College, Leicester, Massachusetts 01524. J AM COLL HEALTH ASSOC (Ithaca) 20:153-155, December 1971.

This study evaluated a junior college health education guidance program in order to determine if information concerning venereal disease presented at this educational level is relevant and worthwhile to the students. A health education guidance program was presented during Orientation Week to the members of the freshman class. Within the curricula of the college, there is no required or elective accredited health education course.

For the course, 121 freshmen men and women students were assigned to three groups. Each group met with the two deans, who had practical and theoretical experience in counseling and guidance. A brief introduction identified the purpose of the presentation. They were given blank cards on which they could write any questions for discussion. The film shown was "A Half Million Teenagers." After the film, all questions which had been submitted on cards were discussed, the group leaders adopting an informal team approach. After the discussions, the students were asked to complete an anonymous evaluation form. At the end of the session they were given two brochures, *Facts About Syphilis* and *Facts About Gonorrhea,* to reinforce learning experienced during the presentation.

Eighty percent of the students exposed to this orientation program had been exposed to VD information before; 88 percent of the students had not seen the film before; and 98 percent felt that the information in this film and program was worthwhile. Students felt they had learned things which they did not notice the first time.

* * *

Behavioral Studies

VENEREAL DISEASE AND DRUGS IN ADOLESCENT GIRLS. Audrey J. McMaster—Department of Gynecology and Obstetrics, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma. CLIN OBSTET GYNECOL (New York) 14:1077-1087, December 1971.

According to data from the United States Bureau of Statistics, 51 percent of our population is under the age of 25. Author points out that when twice as many people do something, it becomes more visible even when the percentage remains the same. "That premarital sexual activity has increased among adolescent females now receives widespread acceptance. Yet data to support an increase are lacking. The general impressions of widespread drug habituation and addiction is also without statistical support."

"The versatility and inexpensiveness of travel, 'package holidays,' and residential mobility have enabled adolescents of all racial, religious and socioeceonomic backgrounds to come in contact with one another when immature judgments are at their peak. An increase in the number of impersonal promiscuous relationships may be the end result." Fear of pregnancy and venereal disease has never been a deterrent to sexual activity. Behavioral changes in sexual activity began prior to technical advances in modern contraceptive methods. Their use has been universally denied to the minor and to the unmarried. Fear of reprisal makes it difficult to ascertain the incidence of drug use in those patients presenting for diagnosis and treatment of venereal disease. Most adolescent females with venereal disease who present to the obstetrician-gynecologist for care are asymptomatic and few suspect its presence. By seeking contraceptive advice or pregnancy testing, they may, in effect, be seeking help for other problems.

Author concludes that the vast majority of adolescents are interested in resolving their problems in an intelligent and constructive way. Drug use should be viewed by the physician as a signal of underlying concerns and his skills should be used to solve problem areas.

* * *

A SURVEY OF HEALTH PROBLEMS, PRACTICES, AND NEEDS OF YOUTH. Jack J. Sternlieb, and Louis Munan—Department of Epidemiology, University of Sherbrooke, Sherbrooke, Quebec, Canada. PEDIATRICS (Springfield) 49:177-186, February 1972.

Authors' abstract: In a study of the health needs of youth, about 1,400 young adults were questioned on their health habits, health status, and the need for a special type of clinic. Concerning medical care practices, most consult their physician less than once a year and many never do so because they are not sick. A surprising number use the services of pseudo-medical men. Of the health problems of youth, nervousness and dental troubles are most frequent. Acne is considered an important problem by both sexes as is anxiety over health. Among the problems classed as personal, scholastic problems rate highest with family

problems second in frequency and sex and religious problems taking third and fourth rank. The problems of most concern to some segments of our society today, namely drugs and alcoholism, rate lowest as problems personally affecting youth.

Most wanted in a youth clinic are physicians, friends, and parents. The characteristics most sought in a physician are a high degree of understanding, a good personality, and informality. His age, sex, and dress seem to be of minor concern. A youth clinic should provide counsel and information on sex, drugs, venereal diseases, and alcoholism.

* * *

Selected Bibliography

Public Health Methods

Anonymous: Familiarity breeds disease. NURS MIRROR, London 134:26, Mar 3, 1972.

Anonymous: Report on an inquiry by public health offices on the occurrence of venereal diseases (GERMAN). Z HAUT GESCHLECHTSKR, Berlin 46:857-860, Dec 15, 1971.

Anonymous: Statement on venereal disease. W VA MED J, Charleston 67:278, Sep 1971.

Atallah F: Gonorrhoea in the Middle East. POSTGRAD MED J, London 48:SUPPL 1:38-43, Jan 1972.

Baccaredda-Boy A, Rebora A: Some epidemiological and therapeutic data on gonorrhoea in Genoa and other Italian areas. POSTGRAD MED J, London 48:SUPPL 1:17-23, Jan 1972.

*Blount JH: A new approach for gonorrhea epidemiology. AM J PUBLIC HEALTH, New York 62:710-712, May 1972.

*Callin AE: Pilot studies for the control of gonorrhea (SPANISH). BOL OF SANIT PANAM, Washington 72:44-49, Jan-Jun 1972.

Craven RF: Anaphylactic shock. AM J NURS, New York 72:718-721, Apr 1972.

Delune H: Epidemiological trends in gonorrhoea in recent years. POSTGRAD MED J, London 48:SUPPL 1:36-38, Jan 1972.

Elste G, Krell L: Prevention and control of venereal diseases in the GDR—observation of the change in hypotheses since 1945 and the resultant future tasks (GERMAN). DERMATOL MONATSSCHR, Leipzig 157:661-666, Sep 1971.

Faye I: Epidemiological aspects of gonococcal infections in Dakar. POSTGRAD MED J, London 48:SUPPL 1:43-45, Jan 1972.

Goldman L: Dermatologists and the current VD problems (Letter to Editor). ARCH DERMATOL, Chicago 105:297-298, Feb 1972.

Grimble AS: Venereal disease and the young patient: A perspective. GUYS HOSP REP, London 120:323-336, 1971.

Guthe T: Education permits the struggle against "genital pollution" (FRENCH). INFIRM FR, Paris 131:19-21, Jan 1972.

Guthe T: Present status of gonorrhoea control. POSTGRAD MED J, London 48:SUPPL 1:7-11, Jan 1972.

Gutowski W: Polish dermatology and venereology at the end of the 19th and beginning of the 20th centuries (POLISH). ARCH HIST MED, Warszawa 34:425-429, 1971.

Hammar H, Ljungberg L: How effective are follow-ups of infection sources in gonorrhea (SWEDISH). LAKARTIDNINGEN, Stockholm 68:5400-5401, Nov 17, 1971.

Harris JR, Mahony JD, Holland J: Sexually transmitted diseases in homosexual relationships. J IR MED ASSOC, Dublin 65:62-64, Feb 5, 1972.

Heraut L, Dumas M, Girard PL: Tabes in Senegal (FRENCH). BULL SOC MED AFR NOIRE LANG FR, Dakar 16:126-130, 1971.

Heraut L, Zwingelstein J, Ayats H: Neurosyphilis in Senegal today (FRENCH). BULL SOC MED AFR NOIRE LANG FR, Dakar 16:190-195, 1971.

Hofmeister FJ: Venereal disease detection in the female patients. WIS MED J, Madison 70:185, Aug 1971.

Kampmeier RH: Syphilis: The same old disease (Editorial). SOUTH MED J, Birmingham 65:250-252, Feb 1972.

Laugier P, Hunziker N, Orusco M: Syphilis in Geneva during the past two years: Epidemiology, serology and treatment (FRENCH). PRAXIS, Bern 60:1628-1635, Dec 7, 1971.

*Abstracted

Luger A: Problems of gonorrhoea in Austria. POSTGRAD MED J, London 48:SUPPL 1:24-35, Jan 1972.

Luger A: Prevention of venereal diseases (GERMAN). Z HAUT GESCHLECHTSKR, Berlin 47:399-414, May 1, 1972.

Marr JJ: Recent developments in the treatment of infectious diseases. VI. Venereal diseases. MO MED, St. Louis 69:99-108, Feb 1972.

Meyer-Rohn J: Syphilis morbidity (GERMAN). DTSCH MED WOCHENSCHR, Stuttgart 97:308, Feb 25, 1972.

Minkowski WL, Weiss RC, Heidbreder GA: The County of Los Angeles Health Department Youth Clinics. AM J PUBLIC HEALTH, New York 61:757-762, Apr 1971.

Nagai T: Summary of the survey on syphilis serodiagnosis in Japan (JAPANESE). JAP J CLIN PATHOL, Tokyo 19:SUPPL:15-16, Aug 1971.

Odegaard K: Laboratory examinations concerning venereal diseases (NORWEGIAN). TIDSSKR NOR LAEGEFOREN, Oslo 92:561-564, Mar 20, 1972.

Page EW: Screening of the female population for gonorrhea. CALIF MED, San Francisco 116:52-53, Apr 1972.

Peretti P, Michel R: Results of 10 years of serological detection and treatment of trepanematoses at the Center on Major Endemias at M'Bour, Senegal (FRENCH). BULL SOC MED AFR NOIRE LANG FR, Dakar 16:201-206, 1971.

Pierce G, Sharpsteen P: Asymptomatic gonorrhea in the campus female. J AM COLL HEALTH ASSOC, Ithaca 20:246-247, Apr 1972.

Prieto JG: Some pecularities of the problem of gonorrhoea in Spain today. POSTGRAD MED J, London 48:SUPPL 1:45-46, Jan 1972.

*Ris HW, Dodge RW: Gonorrhea in adolescent girls in a closed population. Prevalence, diagnosis, and treatment. AM J DIS CHILD, Chicago 123:185-189, Mar 1972.

Sebek V: Current course of female gonorrhea (CZECHOSLOVAKIAN). CESK GYNEKOL, Praha 37:47-48, Feb 1972.

Sehgal VN, Singh I, Rege VL: Serological (S.T.S.) survey in a hospital population. A preliminary note. INDIAN J MED SCI, Bombay 26:156-159, Mar 1972.

Semmens JP, Semmens JH: Sex education of the adolescent female. PEDIATR CLIN NORTH AM, Philadelphia 19:765-778, Aug 1972.

Soldatova VM, Bashmakova MA, Stepanova GN: Incidence of mycoplasma isolation in different forms of pregnancy pathology (RUSSIAN). AKUSH GINEKOL, Moskva 48:61-63, Mar 1972.

Takeuchi K: Syphilis (JAPANESE). NAIKA, Tokyo 29:260-274, 1972.

Towpik J: Present-day problems of gonorrhea control (POLISH). POL TYG LEK, Warszawa 27:285-287, Feb 21, 1972.

Verhagen AR, van der Ham M, Heimans AL: Diminished antibiotic sensitivity of *Neisseria gonorrhoeae* in urban and rural areas in Kenya. BULL WHO, Geneve 45:707-717, 1971.

Wandel A: Elementary prevention of venereal diseases (GERMAN). MUNCH MED WOCHENSCHR, Munich 114:452-459, Mar 10, 1972.

*Waterhouse PG: Venereal disease education in the junior college: Yes or no. J AM COLL HEALTH ASSOC, Ithaca 20:153-155, Dec 1971.

Wigfield AS: Twenty-seven years of uninterrupted contact tracing. The "Tyneside Scheme." BR J VENER DIS, London 48:37-50, Feb 1972.

*Wilkinson AE: Problems in the treatment of venereal disease: bacterial resistance: allergy. J R COLL PHYSICIANS LOND, Dartmouth 6:175-180, Jan 1972.

Willcox RR: Gonorrhoea treatment practices in the United Kingdom. POSTGRAD MED J, London 48:Suppl 1:71-80, Jan 1972.

*Abstracted

*Zackler J, Orbach H, Brolnitsky O, *et al:* A mass screening program for the detection of gonorrhea. AM J OBSTET GYNECOL, St. Louis 112:772-776, Mar 15, 1972.

Behavioral Studies

Blagojevic V: Socioeconomic aspects of venereal diseases treated at Dermatovenereal Institute in Sarajevo (CROATIAN). MED ARH, Sarajevo 24:167-174, Mar-Dec 1970.

Giard R: Male gonococcal urethritis and its psycho-emotional effects. POSTGRAD MED J, London 48:SUPPL 1:47-53, Jan 1972.

*McMaster AJ: Venereal disease and drugs in adolescent girls. CLIN OBSTET GYNECOL, New York 14:1077-1087, Dec 1971.

Mahony JD: Analysis of attendance motivation in a Belfast venereal diseases clinic. BR J VENER DIS, London 48:71-74, Feb 1972.

*Sternlieb JJ, Munan L: A survey of health problems, practices, and needs of youth. PEDIATRICS, Springfield 49:177-186, Feb 1972.

*Abstracted

BOOKS

TODAY'S VD CONTROL PROBLEM – 1973, by the American Social Health Association, 62 pp, with illus, 1-99 copies $2.00 each, 100-299 copies $1.50 each, 300-499 copies $1.00 each, 500-1000 copies $0.85 each, American Social Health Association, 1740 Broadway, New York, N.Y. 10019.

The Joint Statement is written and published by the American Social Health Association and co-sponsored by the American Public Health Association, the American Venereal Disease Association, and the Association of State and Territorial Health Officers. The Statement includes analyses of incidence trends of gonorrhea and infectious syphilis on a national, state and community basis, outlines of progress towards bringing venereal diseases under control, and recommendations on adequacy of funding and types of approach that government and medicine should take to control the spread of these diseases.

THE MEDICAL CLINICS OF NORTH AMERICA – *Symposium on Venereal Diseases*, guest editor: Bruce Webster; volume 56, number 5, 168 pp with illus, $9.00, W. B. Saunders Company, September 1972.

Since the practicing physician is treating 80 percent of the cases of the venereal diseases in the United States today, this volume is an attempt to acquaint him with the current thinking on presently available methods for the control of these diseases.

NATURAL HISTORY OF INFECTIOUS DISEASES. Sir Macfarlane Burnet and David O. White, ed. 4; 278 pp, with illus, $14.50, paper $3.95, Cambridge University Press, 1972.

This book considers the characteristics of the various microorganisms and their relation to the environment and to their hosts. Authors state it is written first for young people contemplating a career in the health professions, and second for anyone with "real but peripheral interest in human infectious disease." It provides an excellent refresher course for physicians and should be of value to medical students as well as educated persons in areas other than health.

DISEASE AND HISTORY, by Frederick F. Cartwright, 248 pp, $7.95, Thomas Y. Crowell Company, New York, 1972.

"The object of this book is to study the area in which doctor and historian inevitably meet, that of the impact of disease upon history." At a time when the sociological aspects of history are being emphasized, the author feels it is worth examining those episodes in which the influence of disease may have been of real importance.

THE COLUMBIAN EXCHANGE: BIOLOGICAL AND CULTURAL CONSEQUENCES OF 1492. Alfred W. Crosby, Jr., 268 pp, with illus, $9.50, Westport, Conn: Greenwood Publishing Co., 1972.

PATHOGENIC MYCOPLASMAS, edited by Katherine Elliott and Joan Birch (Ciba Foundation symposium, London, January 1972), 404 pp, with illus, $18.75, Excerpta Medica, North-Holland Publishing Co. (American Elsevier Publishing Co.), 1972.

DISEASES OF THE VULVA, by Nikolas A. Janovski and Charles P. Douglas, 125 pp, 179 illus, $17.50, Harper & Row, 1972.

THE GOALS OF HUMAN SEXUALITY, by Irving Singer, 219 pp, $6.95, W. W. Norton & Co., 1973.

☆U.S. G.P.O.: 1973– 746-640/3605 Region No. 4

9F4355673